



Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

HIV1LAI (DP-178; SEQ ID NO.:1) YTSLIHSLIESQNQQEKNEQELLELDKWASLWNWF

HIV1SF2 (DP-185; SEQ ID NO.:3) YTNTIYTLLAESQNQQEKNEQELLELDKWASLWNWF

HIV1RF (SEQ ID NO.:4) YTGTIYTNLLESQNQQEKNEQELLELDKWANLWNWF

HIV1MN (SEQ ID NO.:5) YTSLIYSLLEKSQTQQEKNEQELLELDKWASLWNWF

HIV2R0D (SEQ ID NO.:6) LEANISKSLEQAQIQQEKNMYYELQKLNSWIDIFGNWF

HIV2NIHZ (SEQ ID NO.:7) LEANISQSLEQAQIQQEKNMYYELQKLNSWIDVFTNWL

DP180 (SEQ ID NO.:2) SSESTLLEQWNWNKLOLAEQWLEQINEKHYLEDIS

DP118 (SEQ ID NO.:10) QQLLDVVKRQQEMRLTVWGTKNLQARVTAIEKYLKDQ

DP125 (SEQ ID NO.:8) CGGNLLRAIAQQHLLQLTVWGIKQLQARILAVERYLKDQ

DP116 (SEQ ID NO.:9) LQARILAVERYLKDQQQ

FIG. 1



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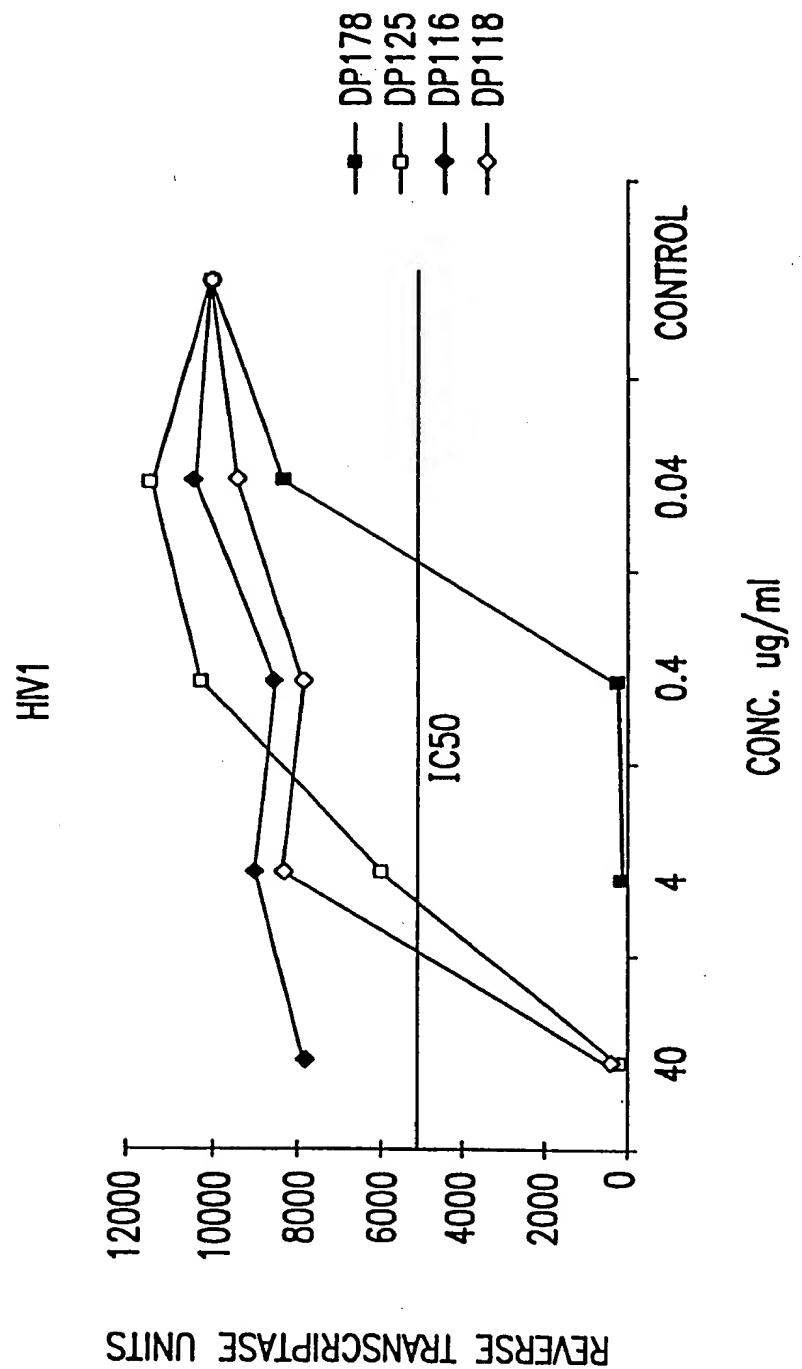


FIG. 2



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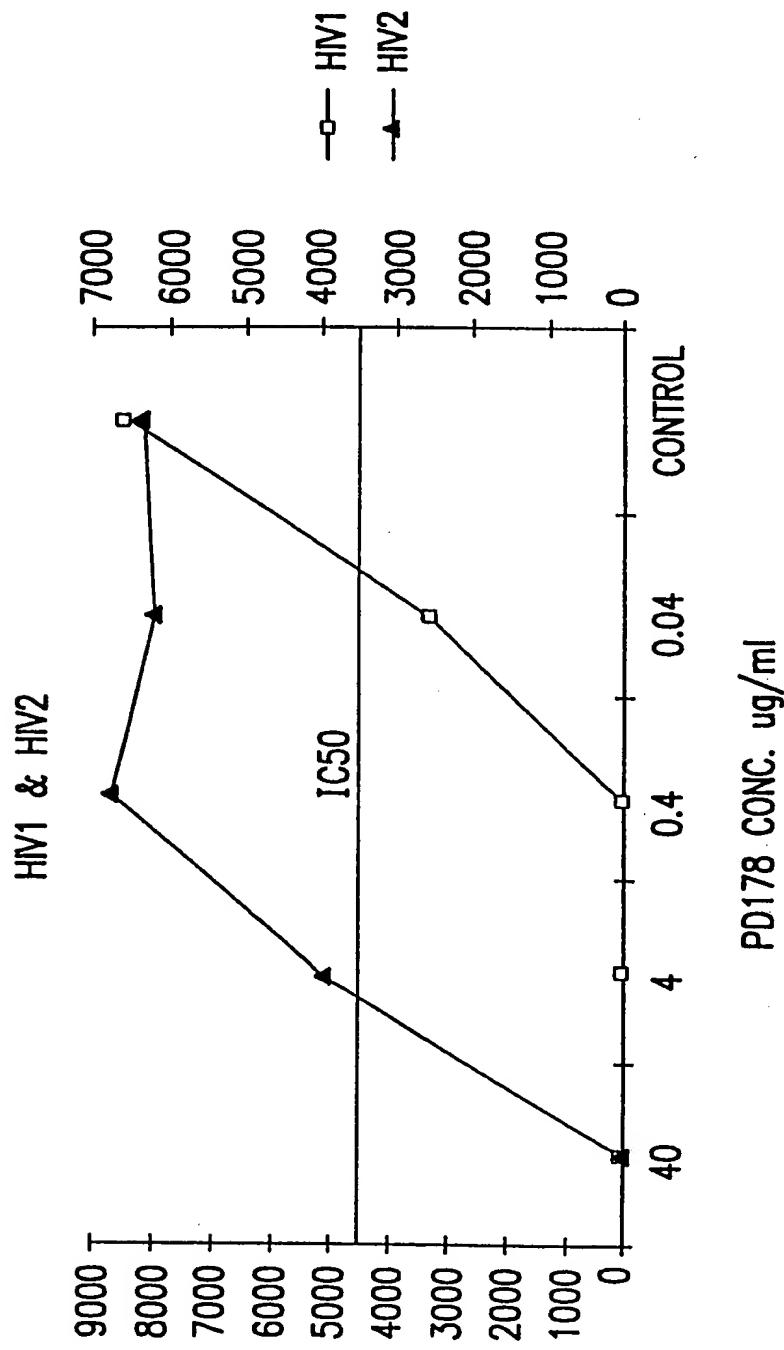


FIG. 3



Number of Syncytia/well: concentration in μ g/ml (micrograms/ml)

DP178	10	5	1	0.2	0.1	0.05	0.025	0.0125	Control
<i>Syncytia</i>									
HIV1LAI	0	0	0	0	0	0	0	0	67
HIV1MN	0	0	0	0	0	ND	ND	ND	34
HIV1RF	0	0	0	0	0	ND	ND	ND	65
HIV1SF2	0	0	0	0	0	ND	ND	ND	58

DP125	10	5	1	0.2	0.1	0.05	0.025	0.0125	Control
<i>Syncytia</i>									
HIV1LAI	0	0	54	69	80	75	79	82	67
HIV1MN	0	0	30	36	ND	ND	ND	ND	34
HIV1RF	0	0	67	63	ND	ND	ND	ND	65
HIV1SF2	0	0	9	66	ND	ND	ND	ND	58

DP116	10	5	1	0.2	0.1	0.05	0.025	0.0125	Control
<i>Syncytia</i>									
HIV1LAI	75	ND	ND	ND	ND	ND	ND	ND	67
HIV1MN	35	ND	ND	ND	ND	ND	ND	ND	34
HIV1RF	81	ND	ND	ND	ND	ND	ND	ND	65
HIV1SF2	81	ND	ND	ND	ND	ND	ND	ND	58

FIG.4A

DP180	40	20	10	5	2.5	1.25	0.625	0.3125	Control
<i>Syncytia</i>									
HIV1LAI	50	>45	>45	>45	>45	>45	>45	>45	58
<i>DP185</i>									
HIV1LAI	0	0	0	0	0	0	0	ND	60

FIG.4B



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HIV1

Number of Syncytia/well: concentration in ng/ml (nanograms/ml)

DP178	20	10	5	2.5	1.25	0.625	0.3125	Control
<u>Syncytia</u>								
HIV1	0	0	0	0	0	14	20	48
<u>DP116</u>								
<u>Syncytia</u>	20	10	5	2.5	1.25	0.625	0.3125	Control
HIV1	ND	48	ND	ND	ND	ND	ND	ND

HIV2

Number of Syncytia/well: concentration in μ g/ml (micrograms/ml)

DP178	20	10	5	2.5	1.25	0.625	0.3125	Control
<u>Syncytia</u>								
HIV2	50	54	55	57	63	77	78	76
<u>DP116</u>								
<u>Syncytia</u>	20	10	5	2.5	1.25	0.625	0.3125	Control
HIV2	ND	58	ND	ND	ND	ND	ND	ND

FIG.5



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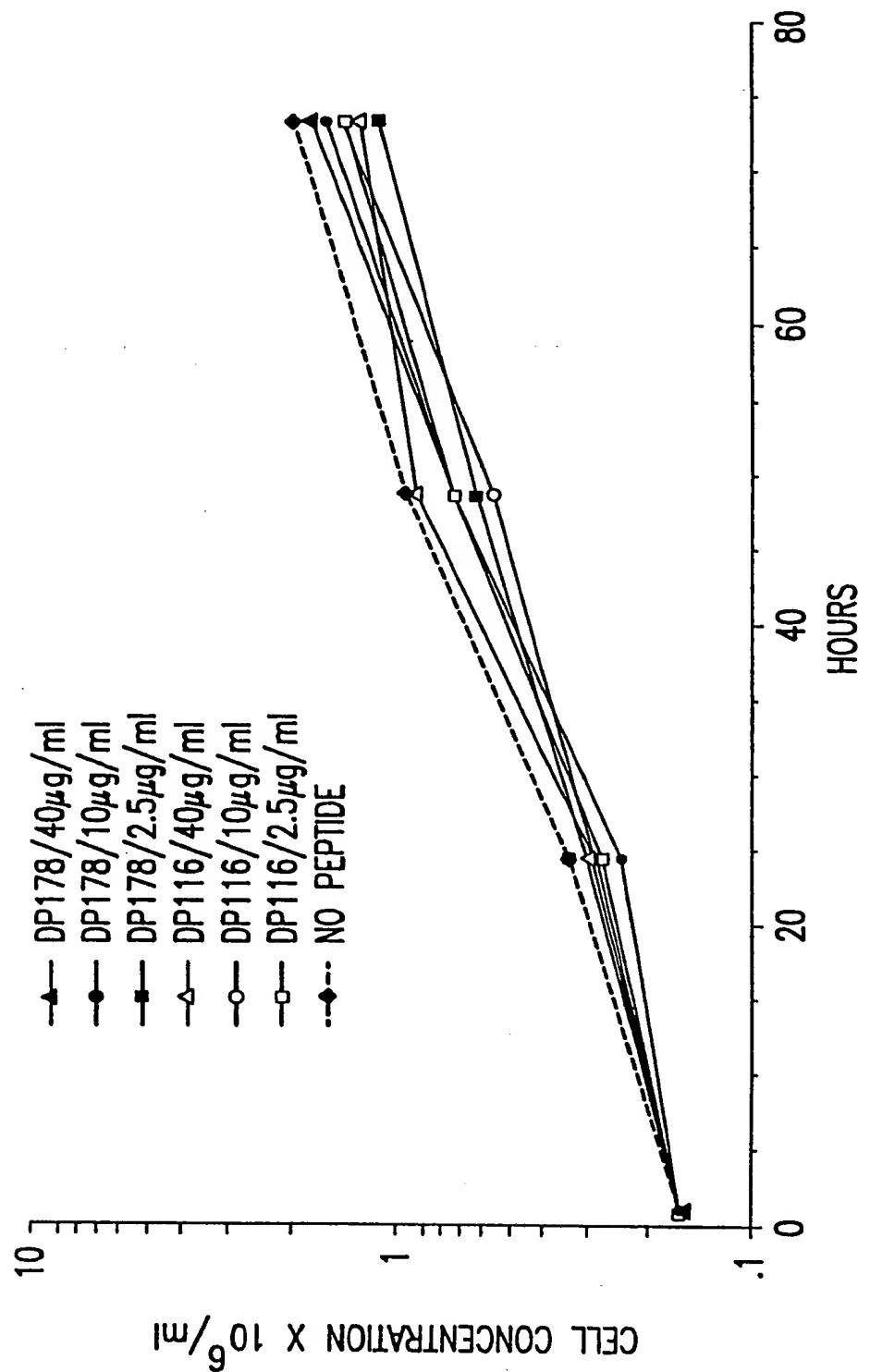


FIG. 6



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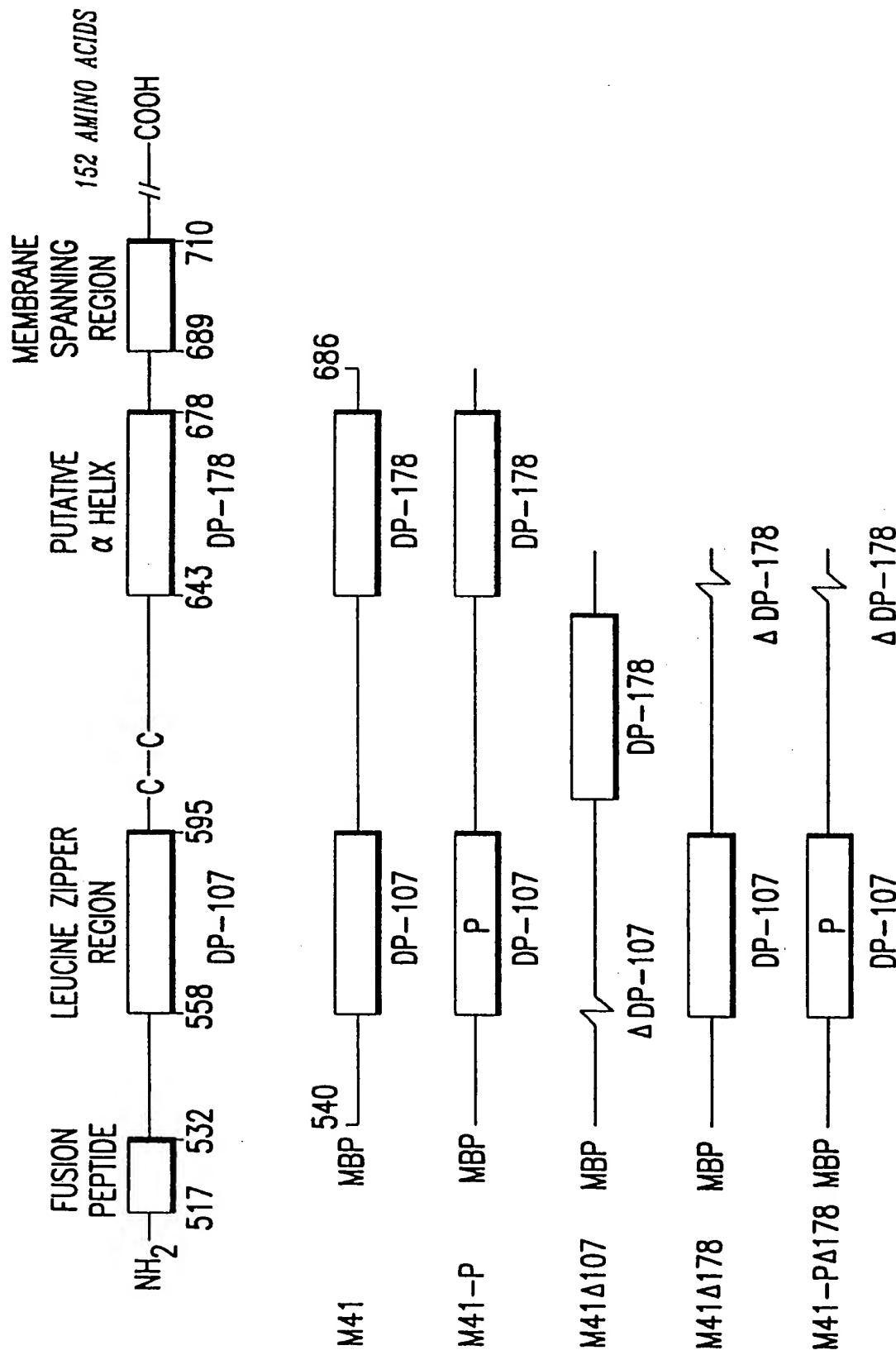


FIG.7



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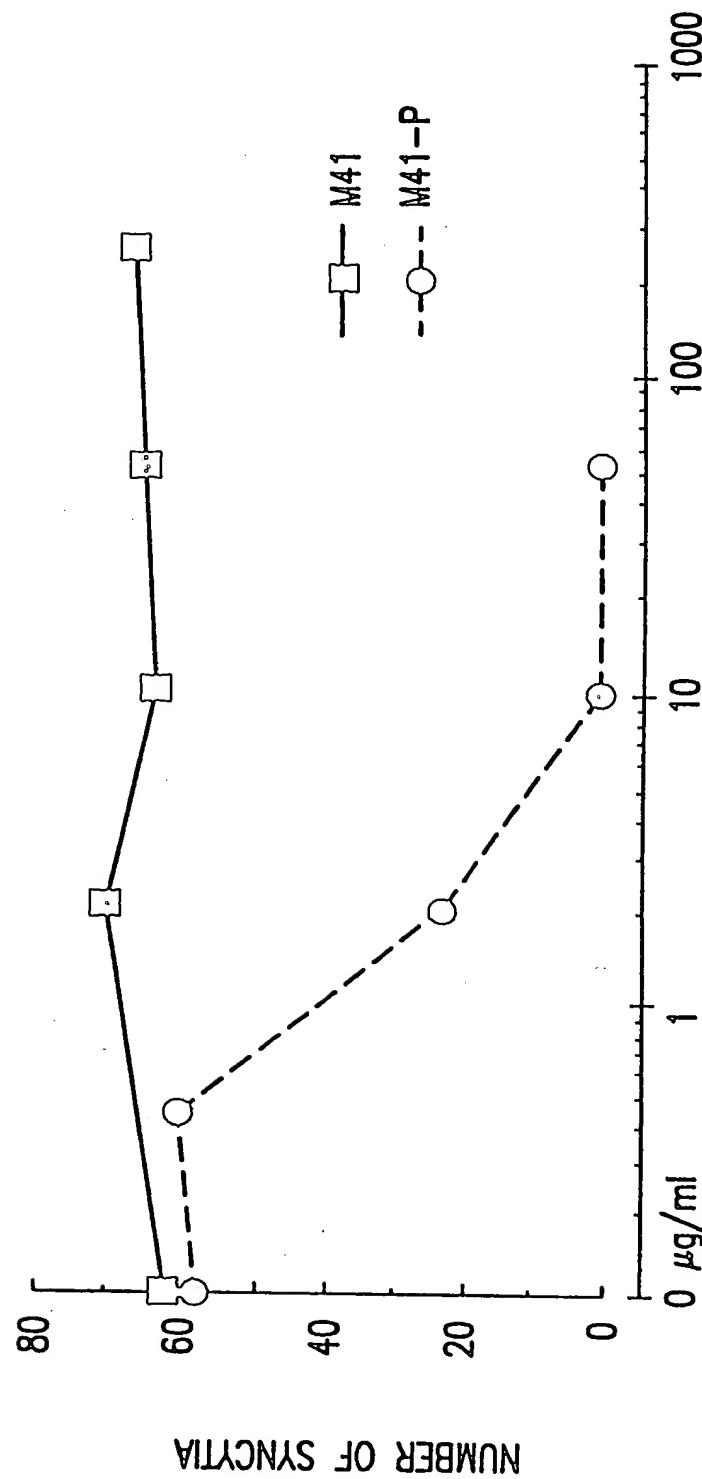


FIG. 8



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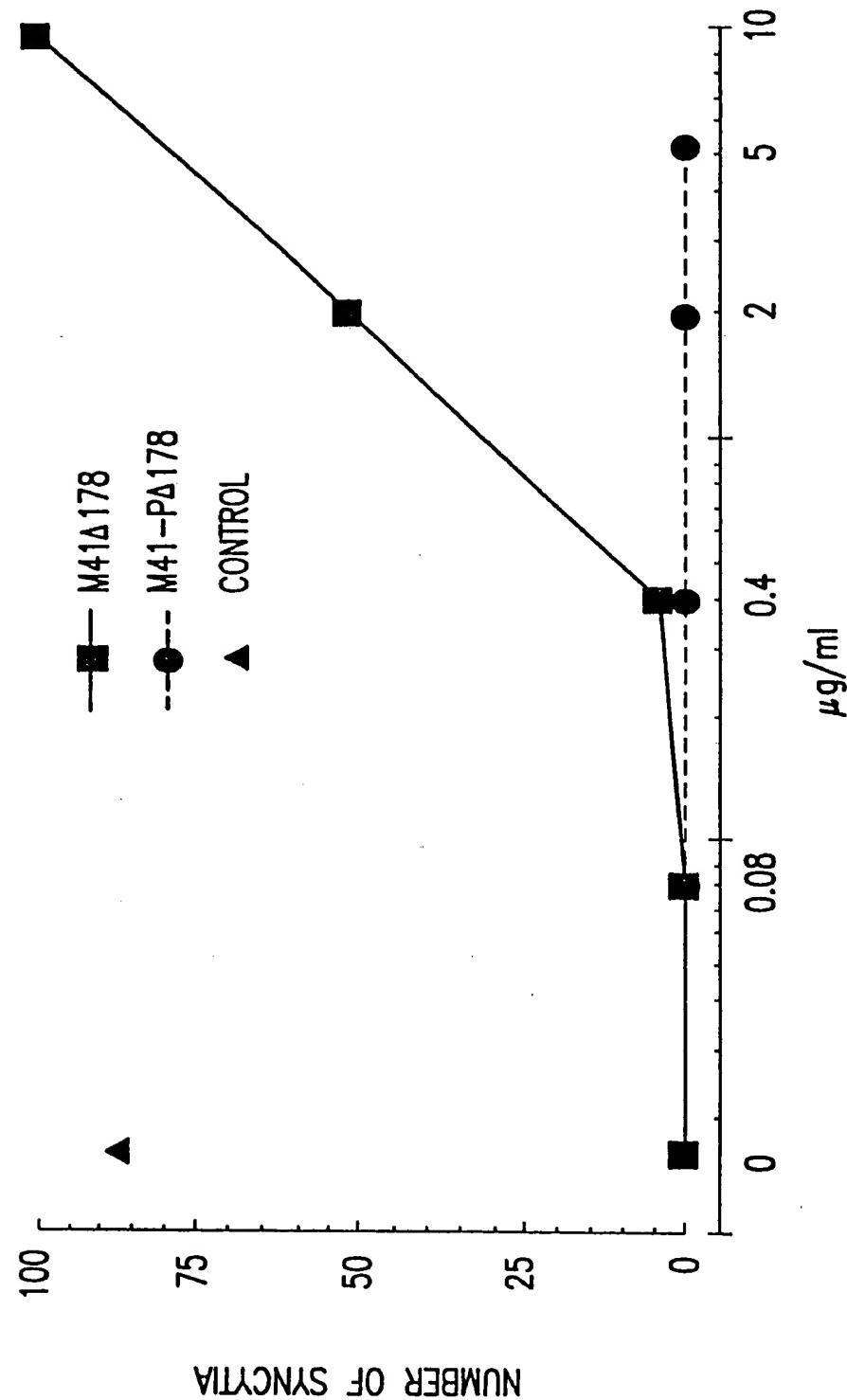


FIG. 9



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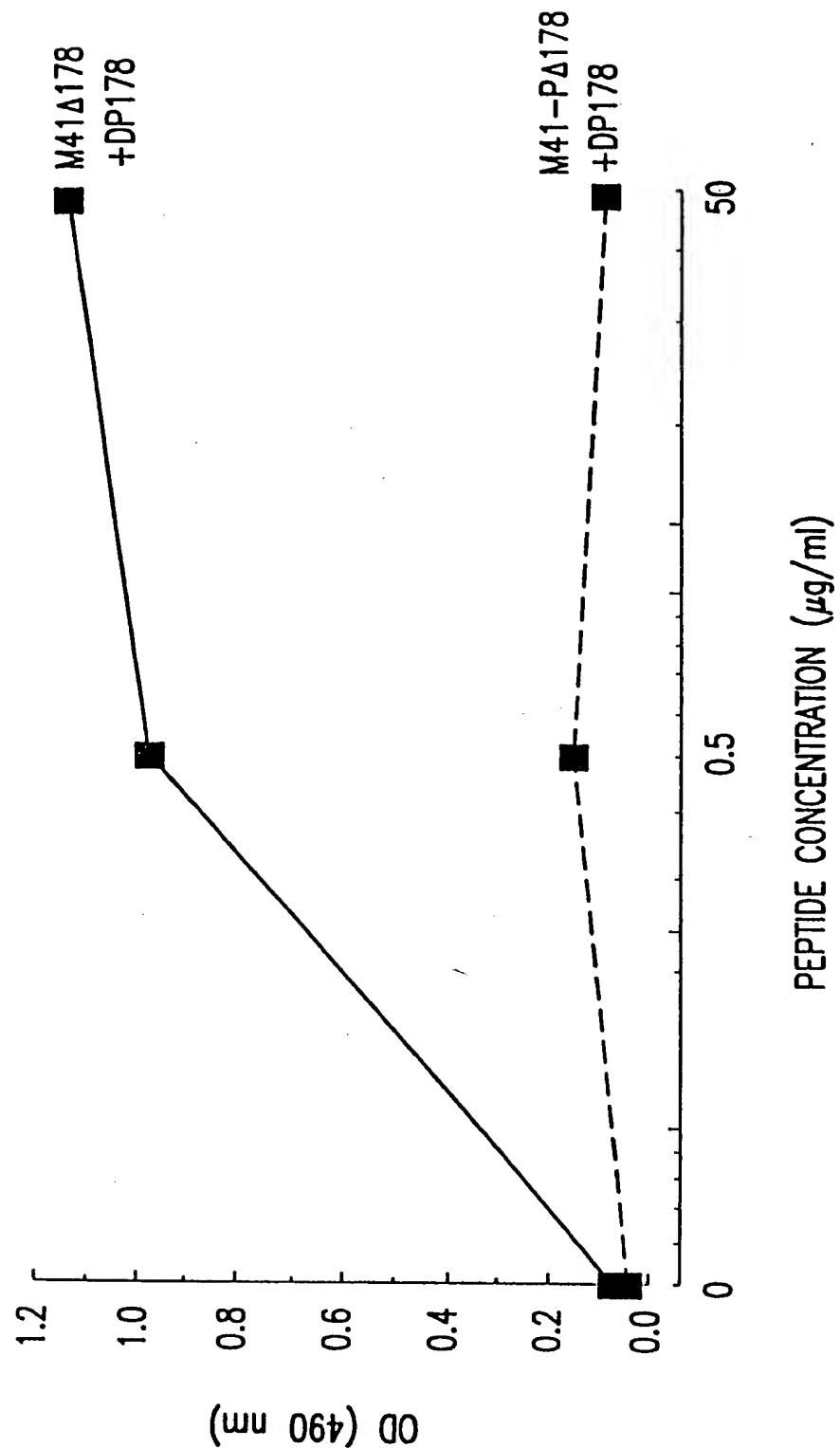


FIG. 10



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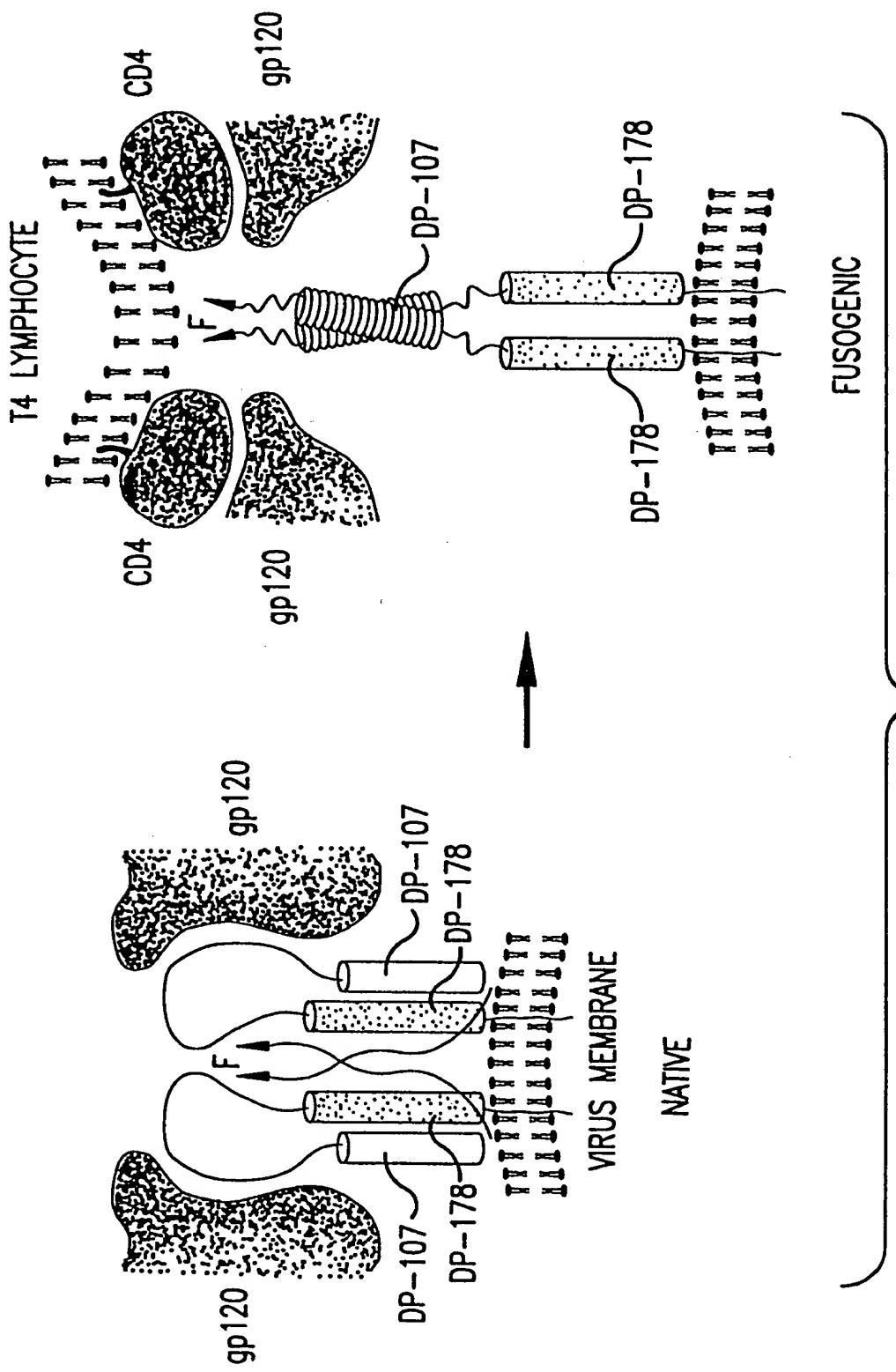


FIG. 11A



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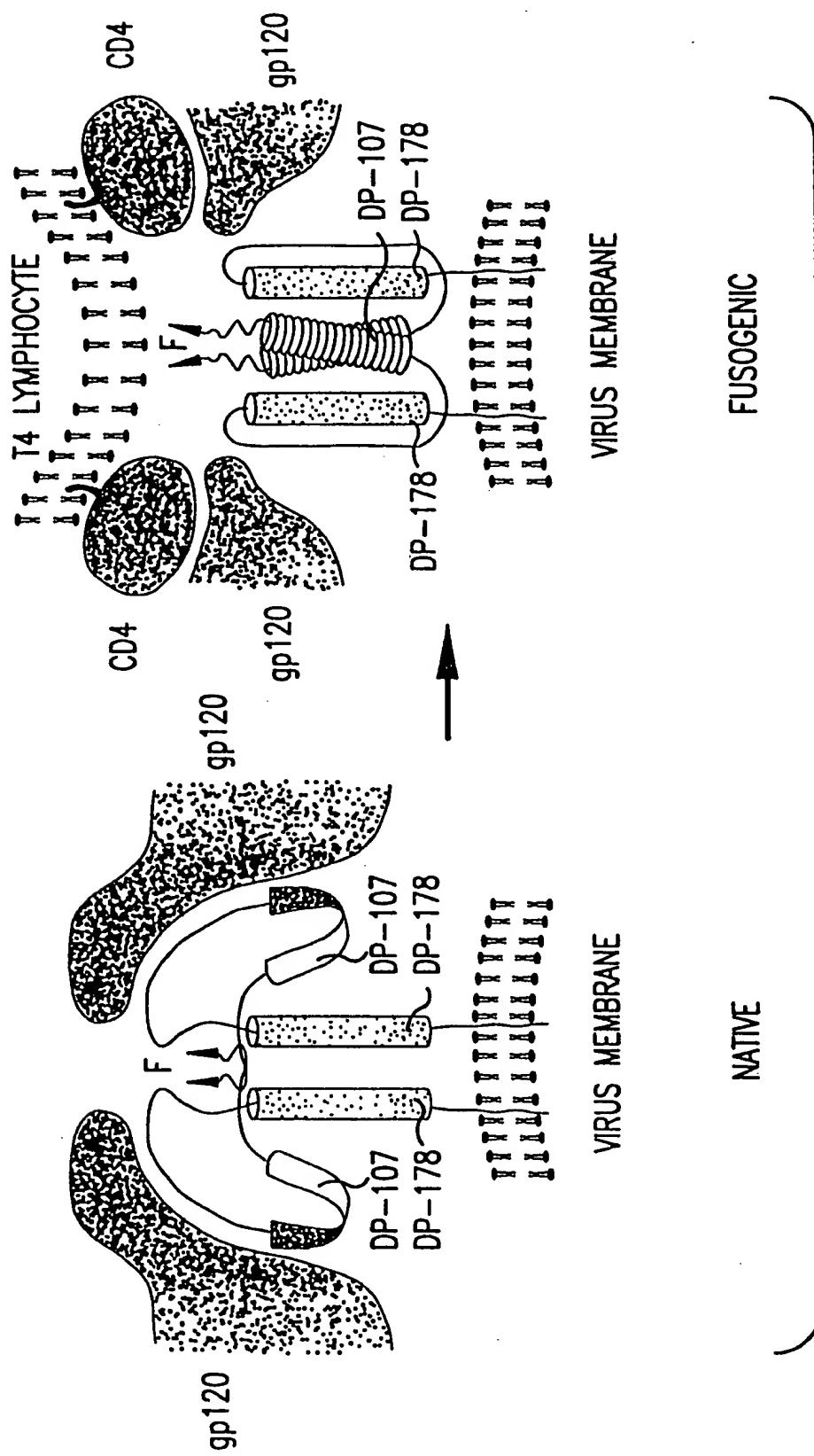


FIG. 11B



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Motifs

[LMNV]	{CFGIMPYW}
[IKL]	{FGHIMPYW}
[AILNV]	{DFGHILPWWY}
[ELR]	{ACFGMPWY}
[FLITV]	{ACFLIMPYW}

Sequence	Positions							
	D	A	D	A	D	A	D	A
GCN4 (gcn4 yeast)	M K Q L E D K V E E L L S K N Y H L E N E V A R L K K L							
C-FOS (fos_human)	T D T L Q A E T D O L E D E K S A L Q T E I A N L L K E							
C-JUN (c-jun_human)	I A R L E E K V K T L K A Q N S E L A S T A N W L R E Q							
C-MYC (myo_human)	E Q K L I S E E D L L E K R R E Q L K H K L E Q L R N S							
FLU LOOP 36	I E K T N E K F H Q I E K F S E V E G R I Q D L E K Y							

FIG. 12



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Sequence	Positions												Motifs		
	D	A	D	A	D	A	D	A	D	A	D	A			
DP-107 (env_hv1bru)[L1=D]	N	N	L	R	A	I	E	A	Q	H	L	Q	L	[LQI]	{CFIMPSTY}
DP-107 (env_hv1bru)[L1=D]	N	N	L	R	A	I	E	A	Q	H	L	Q	L	[LQT]	{CDFIMPST}
DP-107 (env_hv1bru)[L1=D]	N	N	L	R	A	I	E	A	Q	H	L	Q	L	[LQT]	{CDFIMPST}
DP-107 (env_hv1bru)[L2=D]	N	N	L	R	A	I	E	A	Q	H	L	Q	L	[EKLQV]	{CDFKMPSVY}
DP-107 (env_hv1bru)[L2=D]	N	N	L	R	A	I	E	A	Q	H	L	Q	L	[EKLQV]	{CFKMPRS}
DP-107 (env_hv1bru)[L2=D]	N	N	L	R	A	I	E	A	Q	H	L	Q	L	[EKLQV]	{CFKMPRS}
DP-178 (env_hv1bru)[Y1=A]	Y	T	S	L	I	H	S	L	I	E	E	S	N	[EKLQY]	{ACFGMPRWY}
DP-178 (env_hv1bru)[Y1=A]	Y	T	S	L	I	H	S	L	I	E	E	S	N	[EKLQY]	{CFGMPRWY}
DP-178 (env_hv1bru)[Y1=A]	Y	T	S	L	I	H	S	L	I	E	E	S	N	[EFLKQWY]	{CFGMPRWY}
DP-178 (env_hv1bru)[Y1=D]	Y	T	S	L	I	H	S	L	I	E	E	S	N	[EILQSY]	{ACFGMPRWY}
DP-178 (env_hv1bru)[Y1=D]	Y	T	S	L	I	H	S	L	I	E	E	S	N	[EILQSY]	{CFGMPRWY}
DP-178 (env_hv1bru)[Y1=D]	Y	T	S	L	I	H	S	L	I	E	E	S	N	[EFLQSY]	{CFGMPRWY}

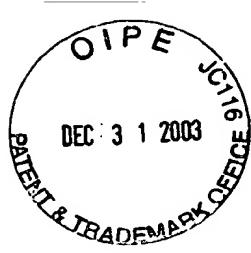
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Sequence	Positions								Parent Motif	Hybrid Motif
	A	D	A	D	A	D	A	D		
GCN4 (gcn4 yeast)	W	K	Q	L	D	K	V	E	[LMNV]	{CFCIMPTW}
DP-107 (env_hv1bru) [L1=D]	N	N	L	R	A	Q	H	L	[LQT]	{CFIMPTY}
DP-107 (env_hv1bru) [L1=D]	N	N	L	R	A	Q	H	L	[LQTV]	{CDFIMPT}
DP-107 (env_hv1bru) [L1=D]	N	N	L	R	A	Q	H	L	[LQTV]	{CDFIMPT}
DP-107 (env_hv1bru) [L1=D]	N	N	L	R	A	Q	H	L	[LQTV]	{CDFIMPT}
DP-107 (env_hv1bru) [L2=D]	N	N	L	R	A	Q	H	L	[EKLNOV]	{CDFKAPSYY}
DP-107 (env_hv1bru) [L2=D]	N	N	L	R	A	Q	H	L	[EKLNOV]	{CDFKAPS}
DP-107 (env_hv1bru) [L2=D]	N	N	L	R	A	Q	H	L	[EKLNOV]	{CDFKAPS}

FIG. 14



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Sequence	Positions										Hybrid Motif		Parent Motif	
	D	A	D	A	D	A	D	A	D	A	D	A	D	A
GCN4 (gcn4 yeast)	W K Q L E D K V E E L S K N Y H L E N E V A R I L K K L													[LMAV] {CFGIMPYW}
DP-178 (env_hv1brv)Y1=A	Y T S L I H S L I E E S Q N Q E K N E Q E L L E L D K													[EKLQY] {ACFGMPRWY}
DP-178 (env_hv1brv)Y1=A	Y T S L I H S L I E E S Q N Q E K N E Q E L L E L D K W A S L W W W													[EKLQWY] {ACFGPQY}
DP-178 (env_hv1brv)Y1=A	Y T S L I H S L I E E S Q N Q E K N E Q E L L E L D K W A S L W W F													[EKLQWYW] {ACFGPQYW}
DP-178 (env_hv1brv)Y1=D	Y T S L I H S L I E E S Q N Q E K N E Q E L L E L D K W A S L W W W													[EILNQSY] {ACFGMPWY}
DP-178 (env_hv1brv)Y1=D	Y T S L I H S L I E E S Q N Q E K N E Q E L L E L D K W A S L W W W													[EILNQSYW] {ACFGMPWY}
DP-178 (env_hv1brv)Y1=D	Y T S L I H S L I E E S Q N Q E K N E Q E L L E L D K W A S L W W F													[EILNQSYWY] {ACFGMPWY}

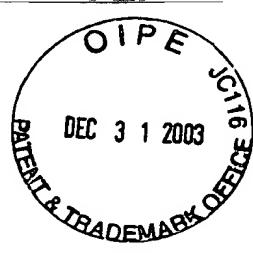
FIG. 15



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Sequence	Positions										Parent Motif	Hybrid Motif	
	D	A	D	A	D	A	D	A	D	A			
DP-107 (env_hv1bru) Y1=0	N	N	L	R	A	Q	H	L	Q	T	W	G	[ILOV] {CDFIMPST}
DP-107 (env_hv1bru) Y2=0	N	N	L	R	A	E	A	Q	H	L	Q	G	[EKLNQV] {CFKAPS}
DP-178 (env_hv1bru) Y1=A	Y	T	S	L	H	S	L	I	E	S	N	Q	[EFKLQMY] {FCGARPVY}
DP-178 (env_hv1bru) Y1=D	Y	T	S	L	I	H	S	L	I	E	S	Q	[EFILQSY] {FCGARPVY}
FLU LOOP 36	I	E	K	T	N	E	K	F	H	Q	I	E	[FILTV] {ACFLMPTW}

FIG.16



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Sequence	Parent Motif								Hybrid Motif								
	A				D				A				D				
Position	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	D	
GCN4 (gcn4 yeast)	W	K	Q	L	E	D	K	V	E	L	S	K	N	Y	H	L	E
DP-107 (env_hv1brv) Y1=D	N	N	L	R	A	I	E	A	Q	H	L	L	Q	L	Q	A	R
DP-178 (env_hv1brv) Y1=A	Y	T	S	L	I	H	S	L	I	E	S	Q	N	Q	E	K	L
GCN4 (gcn4 yeast)	W	K	Q	L	E	D	K	V	E	L	S	K	N	Y	H	L	E
DP-107 (env_hv1brv) Y1=D	N	N	L	R	A	I	E	A	Q	H	L	L	Q	L	Q	A	R
DP-178 (env_hv1brv) Y1=A	Y	T	S	L	I	H	S	L	I	E	S	Q	N	Q	E	K	L
GCN4 (gcn4 yeast)	W	K	Q	L	E	D	K	V	E	L	S	K	N	Y	H	L	E
DP-107 (env_hv1brv) Y1=D	N	N	L	R	A	I	E	A	Q	H	L	L	Q	L	Q	A	R
DP-178 (env_hv1brv) Y1=A	Y	T	S	L	I	H	S	L	I	E	S	Q	N	Q	E	K	L
GCN4 (gcn4 yeast)	W	K	Q	L	E	D	K	V	E	L	S	K	N	Y	H	L	E
DP-107 (env_hv1brv) Y1=D	N	N	L	R	A	I	E	A	Q	H	L	L	Q	L	Q	A	R
DP-178 (env_hv1brv) Y1=A	Y	T	S	L	I	H	S	L	I	E	S	Q	N	Q	E	K	L
GCN4 (gcn4 yeast)	W	K	Q	L	E	D	K	V	E	L	S	K	N	Y	H	L	E
DP-107 (env_hv1brv) Y1=D	N	N	L	R	A	I	E	A	Q	H	L	L	Q	L	Q	A	R
DP-178 (env_hv1brv) Y1=A	Y	T	S	L	I	H	S	L	I	E	S	Q	N	Q	E	K	L

FIG. 17



Sequence	Parent Motif				Hybrid Motif
	D	A	D	A	
GCN4 (gcn4 yeast)	W K Q L E D K V E E I L S K N Y H L E N E V A R L K K L	[LMW]	{CFGIMPWTW}		
DP-107 (env_hv1bru) Y1=D	N N L L R A I E A Q Q H L L Q L T V W G I K Q L Q A R I L A V E R Y L K D Q	[LQTV]	{CDFIMPSTI}		
DP-107 (env_hv1bru) Y2=D	N N L L R A I E A Q Q H L L Q L T V W G I K Q L Q A R I L A V E R Y L K D Q	[EKLNOV]	{CFKAPS}		
DP-178 (env_hv1bru) Y1=A	Y T S L I H S L I E E S Q N Q Q E K N E Q E L L E D K W A S L W N W F	[EFKLQWY]	{CEGARRY}		
DP-178 (env_hv1bru) Y1=D	Y T S L I H S L I E E S Q N Q Q E K N E Q E L L E D K W A S L W N W F	[EFILNQSY]	{CFGAPRWM}		
C-FOS (fos_human)	T D T L Q A E T D Q L E D E K S A L Q T E I A N L K E	[IKLT]	{CFGHIMPRTWY}		
C-JUN ((c-jun_human)	I A R L E E K Y K T L K A Q N S E L A S T A N W L R E Q	[AILW]	{CDFGHILPWN}		
C-MYC (myo_human)	E Q K L I S E E D L L E K R R E Q L K H K L E Q L R N S	[ELR]	{ACFGAPWY}		
FLU LOOP 36	I E K T N E K F H Q I E K E F S E V E G R I Q D L E K Y	[FILTV]	{ACFLMPWTW}		
				[AEFIKLMQRSTWY]	{CFP}
				[CQGHP]	{CFP}

FIG. 18



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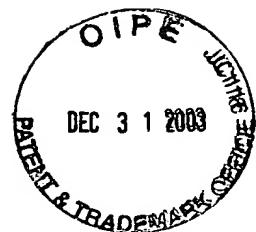
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P-[LIV]-{P}(6)-[LIV]-P(6)-[LIV]
P-[P](1)-[LIV]-P(6)-[LIV]
P-[P](2)-[LIV]-P(6)-[LIV]
P-[P](3)-[LIV]-P(6)-[LIV]
P-[P](4)-[LIV]-P(6)-[LIV]
P-[P](5)-[LIV]-P(6)-[LIV]
P-[P](6)-[LIV]-P(6)-[LIV]
P-[P](7)-[LIV]-P(6)-[LIV]
P-[P](8)-[LIV]-P(6)-[LIV]
P-[P](9)-[LIV]-P(6)-[LIV]
P-[P](10)-[LIV]-P(6)-[LIV]
P-X(1,12)-[LIV]-P(6)-[LIV]
P-X(13,23)-[LIV]-P(6)-[LIV]

FIG. 19



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Fusion Peptide **▼ALLMOTIS▼**
▼.....**ELGFLG** A AGSTMGARSM TLTQARQ **▲LL SGIVQQQ DP107-NNL**

LRAIEAOOHL LOLTVWGIKO LOARILAYER XLKDO-DP107 QLLG▲▼ I WGC

▲107x178x4▲
▼ALLMOTIS▼ ***LVS Coiled-Coil***
SGKLICT TAVP **▼WNASWS NKSLEQIWNN MTWM *E** **▲WDRELNN DP178-**

YTSLIHSL IEESONOQEK NEOELLELDK* WASLWNWF-DP178 NI

♦Transmembrane Region♦
TNWLWYIK▲ ♦IEIMIVGGLYGL RIVFAVLSIV NRVRQGYS▼ PL

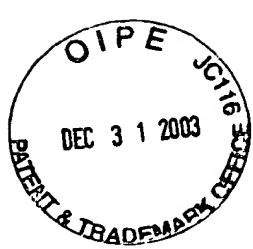
♦P23LZIPC♦
SFQTHLPTPR GPDR **♦PEGIEE EGGERDRDRS IRLVNGSLAL IWDDLRSL♦ CL**

▼ALLMOTIS▼ **▲107x178x4▲**
F ▼SYHRLRDLL LIVTRIVELL GRRGW **▲EALKY WWNLLOQYWSQ**

ELKNSAYSLL NAT▲ AIAVAEG TDRVIEVVQG A▼ CRAIRHPR

RIRQGLERIL L

FIG. 20



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Serial No.: 08/487,355
Inventor(s): Barney et al.
Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

Fusion **▼ALLMOT15▼**
Peptide **▲107x178x4▲**
▼.....**ELGEL** **LGVGSIAAS GVA** **▲YSKVLHL EGEVNIKSA**

P1&12LZIPC
LLSTNKAVVS LSNGVSVLTS KVLDLKNYID KQ▲▼ LL +PIVNKQ
▲107x178x4▲
SC +SISNIETYI+ EFOQKNNRLLEITREESYNAG+ VTTPVSTMLTNSELLSL

P1&12LZIPC
▼ALLMOT15▼
INDM +PI ▼TNDQ KKLMSSNNVQI V+ RQQSYSI+ MS IIKEEVLAYV

VQ▼ LPLYGVID TPCWKLHTSP LCTTNTKEGS NICLRTDRG WYCDNAGSVS

FFPQAETCKV QSNRVFCDTM NSLTPSEIN LCNVDIFNPK

YDCKIMTSKT DVSSSVITSL GAIVSCYGKT KCTASNKNRG

IIKTFNGCDYVSNKGMDTV SVGNTLYYVN KQEGKSLYVK G

P7, 12, & 23LZIPC
▲107x178x4▲ ▼ALLMOT15▼
EPIINFYDPLVF +PSDE +FDASISQYNEIKINOSLAF +I+ RKSDELL+

♦Transmembrane Region♦
UNVNA+ GK STTN +IMITLIVLIVILLS LIAVGLLLY▼ C+

KARSTPVTLS KDQLSGINNI AFSN

FIG. 21



Docket No.: 7872-027-999
Serial No.: 08/487,355
Inventor(s): Barney et al.
Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

Fusion Peptide ELGFLG **▼ ALLMOT15 ▼ ♦107x178x4♦**
▼ AAGTA MGAAA ♦TALTYOSQHILLAGILOQQOKNLLAAY

♦107x178x4♦
EAQ ♦ QQM ♦LKLTIWGVKNLNARVTALEKYLEDQARLN♦ AWG▼ CA

LVS Coiled-Coil
▼ ALLMOT15 ▼ ♦107x178x4♦
WKQVCHTTVP WQWNNRTPDW ▼ NNMT *WLE ♦WERQISYLEGNIT

♦107x178x4♦
TQLEEARAQEEKNLD ♦ AYQKLSS* WSDFWSW▼ FDF ♦SKWLN ♦ ILK

♦ Transmembrane Region ♦
IGELDYLGIIGLRLLYTV ♦ XS ♦ CIARVRQGYS PLSPQI-IHP WKGQPDNAEG

PGEGGDKRKN SSEPWQKESG TAEWKSNWCK RLTNWCSISS IWLYNS

▼ ALLMOT15 ▼
▼ CLTL LVHLRSAFQY IQYGLGELKA AAQEAVVVALA RLAQNAGYQIWL▼

ACRSAYRA IINSPRRVRQ GLEGILN

FIG. 22



Docket No.: 7872-027-999
Serial No.: 08/487,355
Inventor(s): Barney et al.
Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

Fusion **♦ ALLMOTIS ♦** **♦ 107x178x4 ♦**
Peptide **♦ VVL AGVALGVATA AQITAGIALHQ ♦** ***LVS Coiled-Coil***
.....EAG **♦ *SNLNAQALIQ ♦**

SLRTSLEOSNKAIIEEIREATQETYIA* **YQGYQDY** ♦ VNNEL♦ VP

♦ ALLMOTIS ♦
♦ 107x178x4 ♦
P6 & 12LZIPC ***PISA** **♦ EISIQALIYAL**

GGEIIKILEIKLGYSQSD ♦ MIAILESRGIKTKI♦ THVDLPGKF IILSISY

P1 & 12LZIPC
***PTLSEVKGVIVHRLEAV** ♦ **SYNIGSQEWYTTVPRYIATNGYLISNFDESSCVFVS**

ESAICSQNSL YPMSPLLQQC IRGDTSSCAR TLVSGTMGNK FILSKGNIV

NCASILCKCY STSTINQSP DKLLTFIASD TCPLVEIDGA TIQVGGRQYP

LVS Coiled-Coil
♦ ALLMOTIS ♦
P12 & 23LZIPC
DMVYEGKVAL G **♦ PAISLD** **♦ RL* DVGTNLGNALKLDDAKVLI ***

♦ Transmembrane Region ♦
DSS ♦ **NQILETYR RS** ♦ **SFN** **♦ EGSLLSVPLSCTAL ALLLLIYCC** ♦

K RRYQQTLKQH TKVDPAFKPD LTGTSKSYVR SL

FIG. 23



Docket No.: 7872-027-999
Serial No.: 08/487,355
Inventor(s): Barney et al.

Fusion **▼ALLMOTIS▼**
Peptide **▲107x178x4▲**
▼.....EIGAI.....IGSVALGVA TAAQITAASA LIQANQNAAN **▲ILRLKESITA▲**

TIEAVHEVTDGLSOLAVA ♣ VG KM ♦ QQFVNDQFNNTAQELDCIKITQQV

ALLMOT15
GVELNLYLTELTTVFGPQTSPAL TQLTIQALYNAGGNMDYLLTKLGVG

♦P1 & 12LZIPC♦
NNQLSSLIGSQLIT GN▼ ♦PILYDQSQT QLLGIQVTLP SVGNLNNMRATYLET

LSVST TKGFASALVP KVVTQVGSVI EELDTSYCLIE TDLDLYCTRI VTFPMSPGIY

SCLNGNTSAC MYSKTEGALT TPYMTLKGSV LANCKMTTCR CADPPGNSO

NYGEAVSLID RHSCN **♦ ALLMOTIS ♦**
♦ 107x178x4 ♦ **♦ VLSLD GITLRLSGEF DATYQKNISI LDSQVIVTG**

LVS Coiled-Coil ♦ Trans-
NLDISTELGNV NNSISNALDK LEESNSKLDK VNVKLTSTSA ♦ LIT YIA

membrane Region ♦
LTAISLVCGLSLV ♦ ♦ LACYLMY ♦ KQKAQQKTLLWLGNNTLGQMRAATTKM

FIG. 24



Docket No.: 7872-027-999
Serial No.: 08/487,355
Inventor(s): Barney et al.
Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

Fusion **▼ALLMOTIS▼**
Peptide **▲107x178x4▲ *LVS Coiled-Coil***
.....**EFGGV** **▲IG ▼TIALG *VATSAQITAAVALVEAKQARSDIEKLKE**

AIRDINKAQSVQSSIGNLIVAIKSVQ* DYVNKE▼▲ IVPSIARLGCEAAG

▼ALLMOTIS▼
▲107x178x4▲
LQLGIALTQH ▲▼YSELTNIEGDNIGSLOEKGIKLQGIASLYRTNITE▼▲

P5 & 12LZIPC
IFTTSTVDKYDIYDLLFTESIKVRVIDVDLNDYSITLQVRL *PLLTRLLNTQYR

VDSISYNI* QNREWYI* PLPSHIMTKGAFLGGADVKECIEAFSSYIC

PSDPGFVLNHEMESCLSGNISQCPRTVVKSDIVPRYAFVNGGVVANCITT

TCTCNGIGNRINQPPDQGVKJITHKECNTIGINGMLFNTNKEGTLAFYTP

▼ALLMOTIS▼
▲107x178x4▲
P6 & 23LZIPC
NDITLNNNSVALD *PIDI ▲SIELN ▼KAKSDLEESKEWI* RRSNOKL*▼

♦Transmembrane Region♦
DSIGNWHQSSTT ♦IIV▲ LIM IILEIINVT II♦ IIAVKYY▼ R
IQKRNVRDQN DKPYVLTK

FIG. 25



Docket No.: 7872-027-999
Serial No.: 08/487,355
Inventor(s): Barney et al.
Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

Fusion
Peptide
.....GLEGAI AGFIENGWEGMIDGWYGFRHQNSEGTG

♦107x178x4♦

♥ALLMOTI5♥
LVS Coiled-Coil
*Q ♥AADLKST ♦QAAIDQINGKLNRYIEKTNEKEHQIEKEESEVEGRIQ

DLEKYVEDTKIDL* WSYNAELLYALENQHTI♦ DLT♥ DSEMNLKFEKTR

RQLRENAEEMGNGCFKITYHICDNACTIESIRNGTYDHDVYRDEALNNRFQIKG

VELKSGYKDWLWISFAISCFLLCVVLLGFIMWACQRGNIRCNCI

FIG. 26



	RSV F2	YTSVITIELSNIKENKCNGAKVKLILKQELDKYKNAVTELQQLLWQST
T-142	YTSVITIELSNIKENKCNGAKVKLILKQELDKYK	
T-143	TSVITIELSNIKENKCNGAKVKLILKQELDKYK	
T-144	SVITIELSNIKENKCNGAKVKLILKQELDKYK	
T-145	VTIELSNIKENKCNGAKVKLILKQELDKYKNAV	
T-146	ITIELSNIKENKCNGAKVKLILKQELDKYKNAV	
T-147	ITIELSNIKENKCNGAKVKLILKQELDKYKNAV	
T-148	ELSNIKENKCNGAKVKLILKQELDKYKNAV	
T-149	LSNIKENKCNGAKVKLILKQELDKYKNAV	
T-150	LSNIKENKCNGAKVKLILKQELDKYKNAV	
T-151	SNIKENKCNGAKVKLILKQELDKYKNAV	
T-152	NIKENKCNGAKVKLILKQELDKYKNAV	
T-153	IKENKCNGAKVKLILKQELDKYKNAV	
T-154	KENKCNGAKVKLILKQELDKYKNAV	
T-155	ENKCNGAKVKLILKQELDKYKNAV	

FIG. 27A



Docket No.: 7872-027-999
Serial No.: 08/487,355
Inventor(s): Barney et al.
Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

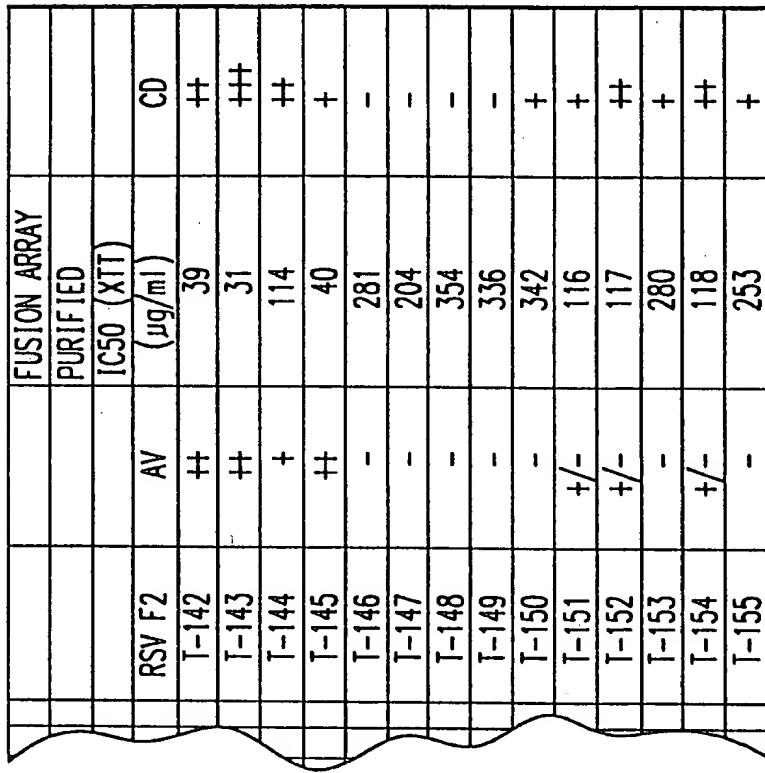


FIG. 27B



Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

RSV	PEPTIDE #	Avg. IC50 (XTT) uG/ML
I-22	I E L S N I K E N K C N G T D A K V K L I K Q E L D K Y K N A V T E L Q L L W Q S T	>500
I-23	I E L S N I K E N K C N G T D A K V K L I K Q E L D K Y	>500
I-24	E N K C N G T D A K V K L I K Q E L D K Y K N A V T E L	>500
I-25	D A K V K L I K Q E L D K Y K N A V T E L Q L L W Q S T	>500
I-26	C N G T D A K V K L I K Q E L D K Y K N A V T E L Q L L	>500
I-27	S N I K E N K C N G T D A K V K L I K Q E L D K Y K N A V T E L Q L L	>500
I-68	V S K C Y S A L R T G W Y T S V I T I E L S N I K E N	165
I-334	A F I R K S D E L L H N V	26
I-371	Y T S V I T I E L S N I K E N K U N G T D A K V K L I K Q E L D K Y K	>500
I-372	T S V I T I E L S N I K E N K U N G T D A K V K L I K Q E L D K Y K N	NOT TESTED
I-373	S V I T I E L S N I K E N K U N G T D A K V K L I K Q E L D K Y K N A	>500
I-374	S N I K E N K U N G T D A K V K L I K Q E L D K Y K N A V T E L Q L L	>500
I-375	K E N K U N G T D A K V K L I K Q E L D K Y K N A V T E L Q L L W Q S	>500
I-575	A V S K G Y L S A L R T G W Y T S V I T I E L S N I K E N K U N G T D A	>100

FIG. 27C



Docket No.: 7872-027-999
Serial No.: 08/487,355
Inventor(s): Barney et al.
Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

FIG. 27D



Docket No.: 7872-027-999

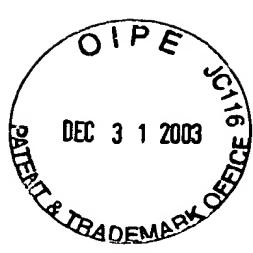
Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

	FUSION ASSAY		
	PURIFIED	IC50 XTT	CD
RSV		(μ g/ml)	
F-107	AV		
T-120	-	204	-
T-121	-	354	-
T-122	-	347	-
T-123	+/-	126	-
T-124	+	95	-
T-125	+	84	-
T-126	+	89	-
T-127	+	89	-
T-128	-	206	-
T-129	-	343	-
T-130	-	177	-
T-131	+/-	118	-
T-132	-	272	-
T-133	+/-	307	-
T-134	+/-	187	-
T-135	+	60	-
T-136	-	194	-
T-137	+	99	-
T-138	++	38	-
T-139	+	86	+/-
T-140	-	160	+/-
T-141	-	204	+/-

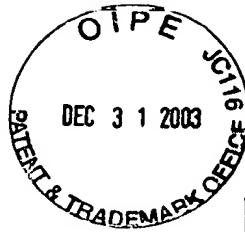
FIG.27E



Docket No.: 7872-027-999
 Serial No.: 08/487,355
 Inventor(s): Barney et al.
 Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

RSV	PEPTIDE #	(XTT) µg/ml	AVC. IC50
	T-12	V V SLS NGV SVL TSK VLD LDK QLL	>500
	T-13	LL S T N K A V V SLS NGV SVL TSK VLD LDK NY	>500
	T-15	VL H L E G E V N K I K S A L L S T N K A V V SLS NGV SVL TSK VLD LDK NY	>500
	T-19	LL S T N K A V V SLS NGV SVL TSK VLD LDK NY	>500
	T-28	A S G C V A V S K V L H L E G E V N K I K S A L L S T N K A V V SLS NGV SVL TSK VLD LDK QLL	>500
	T-29	S G V A V S K V L H L E G E V N K I K S A L L S T N K A V V SLS NGV SVL TSK VLD LDK QLL	327
	T-30	V L H L E G E V N K I K S A L L S T N K A V V SLS NGV SVL TSK VLD LDK QLL	328
	T-69	V V SLS NGV SVL TSK VLD LDK NY I D K QLL	292
	T-70	V N K I K S A L L S T N K A V V SLS NGV SVL TSK VLD LDK NY I D K QLL	349
	T-66	N D O K K L M S N N V Q I V R Q Q S Y S I N S I K E E	>500
	T-576	S I S N I E T V I E F Q O K N N R L L E I T R E F S V N A G V T T P V S	>100

FIG. 27F



Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

RSV DP-178-LIKE REGION (F1)

FIG. 28A



Docket No.: 7872-027-999
Serial No.: 08/487,355
Inventor(s): Barney et al.
Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

RSV	AV	(µg/ml)	(XIT)	CD	FUSION ASSAY		
					PURIFIED	37	+
T-67	++					-	+
F1-178							
T-104	+						
T-105	+						
T-106	-						
T-107	+						
T-108	##						
T-109	##						
T-110	##						
T-111	##						
T-112	##						
T-113	##						
T-114	##						
T-115	##						
T-116	##						
T-117	##						
T-118	##						
T-119	##						

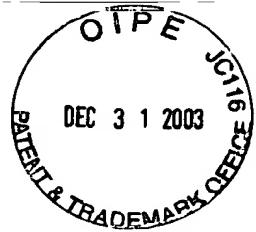
FIG. 28B



Docket No.: 7872-027-999
 Serial No.: 08/487,355
 Inventor(s): Barney et al.
 Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

RSV	PEPTIDE #	AVG. IC50 (XTT)ug/ml
T-71	P I I N F Y D P P L V F P S D E F D A S I I S Q V N E K I N Q S L A F I R K S D E L L H N V	138
T-384	R M K Q L E D K V E E L L S K L A F I R K S D E L L H N V	NOT TESTED
T-613	D E L L H N V N A G K S T	>100
T-614	K S D E L L H N V N A G K S T	>100
T-615	I R K S D E L L H N V N A G K S T	>100
T-616	A F I R K S D E L L H N V N A G K S T	>100
T-617	F D A S I I S Q V N E K I N Q S L A F I	NOT TESTED
T-662	S L A F I R K S D E L L H N V N A G K S T	>100
T-663	F D A S I I S Q V N E K I N Q S L A F I R K	NOT TESTED
T-665	F D A S I I S Q V N E K I N Q S L A F I R K S D E L L H N V N A G K	7
T-666	F D A S I I S Q V N E K I N Q S L A F I R K S D E L L H N V N A	4
T-667	F D A S I I S Q V N E K I N Q S L A F I R K S D E L L H N V	4
T-668	F D A S I I S Q V N E K I N Q S L A F I R K S D E L L H	5
T-669	F D A S I I S Q V N E K I N Q S L A F I R K S D E L L	80
T-670	F D A S I I S Q V N E K I N Q S L A F I R K S D	>100
T-671	A S I I S Q V N E K I N Q S L A F I R K S D E L L H N V N A G K S T	8
T-672	I S Q V N E K I N Q S L A F I R K S D E L L H N V N A G K S T	6
T-673	Q V N E K I N Q S L A F I R K S D E L L H N V N A G K S T	14
T-674	N E K I N Q S L A F I R K S D E L L H N V N A G K S T	>100
T-675	K I N Q S L A F I R K S D E L L H N V N A G K S T	>100
T-676	N Q S L A F I R K S D E L L H N V N A G K S T	>100
T-730	F D A S I I S Q V N E K I N Q S L A F I R K S D E L L H N V N A G K S T	NOT TESTED

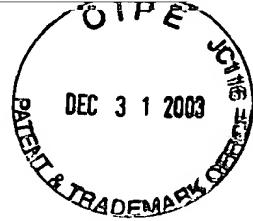
FIG. 28C



Docket No.: 7872-027-999
Serial No.: 08/487,355
Inventor(s): Barney et al.
Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

FIG. 29A

HPV3 DP107-LIKE REGION(F1)			
HPF3 107	G T I A L G V A T S A Q I I T A A V A L V E A K Q A R S D I E K L K E		
157	A L G V A T S A Q I I T A A V A L V E A K Q A R S D I E K L K E		
158	L G V A T S A Q I I T A A V A L V E A K Q A R S D I E K L K E		
159	G V A T S A Q I I T A A V A L V E A K Q A R S D I E K L K E		
160	V A T S A Q I I T A A V A L V E A K Q A R S D I E K L K E		
161	A T S A Q I I T A A V A L V E A K Q A R S D I E K L K E		
162	T S A Q I I T A A V A L V E A K Q A R S D I E K L K E		
163	S A Q I I T A A V A L V E A K Q A R S D I E K L K E		
164	A Q I I T A A V A L V E A K Q A R S D I E K L K E		
165	Q I I T A A V A L V E A K Q A R S D I E K L K E		
166	I I T A A V A L V E A K Q A R S D I E K L K E		
167	T A A V A L V E A K Q A R S D I E K L K E		
168	A A V A L V E A K Q A R S D I E K L K E		
169	A V A L V E A K Q A R S D I E K L K E		
170	V A L V E A K Q A R S D I E K L K E		
171	A L V E A K Q A R S D I E K L K E		
172	L V E A K Q A R S D I E K L K E		
173	V E A K Q A R S D I E K L K E		
174	E A K Q A R S D I E K L K E		
T-40	A K Q A R S D I E K L K E		
175	K Q A R S D I E K L K E		
176	Q A R S D I E K L K E		
177	A R S D I E K L K E		
178	R S D I E K L K E		
179	S D I E K L K E		
180	D I E K L K E		
181	I I E K L K E		
182	E K L K E		
183	K L K E		
184	L K E		
185	186	187	188



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AIRDTINKAVQSSVQSSIGNLIVAIKSVQDYYVNKEIVP

FIG. 29.



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 Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

HPIV3 107	AV	IC50	CD
		(UG/ML)	
157	-	574*	+
158	-	146*	+
159	-	707*	+
160	-	536*	+
161	-	390*	+
162	-	403*	+
163	-	123*	+
164	-	512.067*	+++
165	-	742*	-
166	-	540*	-
167	-	215*	-
168	-	680*	-
169	-	137*	-
170	-	456*	-
171	-	437*	-
172	+	63*	-
173	++	30*	-
174	+	56*	++
T-40	+/-		+++
175	+/-	110*	++
176	-	197.75*	+++
177	-	350*	+
178	++	30*	+
179	-	295*	-
180	-	732*	-
181	-	929*	-
182	-	707*	-
183	-	218.50*	++
184	+	67.8*	+++
185	-	542*	-
186	-	613*	-
187	-	152*	-
188	-	669*	-

FIG.29C



Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

HPIV-3 DP107-L-LIKE WALKS

T-42	A	T	S	A	Q	I	T	A	A	V	A	V	A	L	V	E	A	K	Q	A	R	S	D	I	E	K	L	K	E	A	
T-43																															
T-39																															
T-38																															
T-40																															
T-44																															
T-45																															
T-46																															

T-42	A	T	S	A	Q	I	T	A	A	V	A	V	A	L	V	E	A	K	Q	A	R	S	D	I	E	K	L	K	E	A	
T-43																															
T-39																															
T-38																															
T-40																															
T-44																															
T-45																															
T-46																															

T-42	A	T	S	A	Q	I	T	A	A	V	A	V	A	L	V	E	A	K	Q	A	R	S	D	I	E	K	L	K	E	A	
T-43																															
T-39																															
T-38																															
T-40																															
T-44																															
T-45																															
T-46																															

T-582 TRUNCATED 184

FIG. 29D



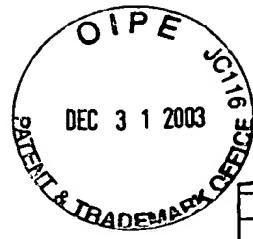
Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

1926



Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

HPIV3 DP178-LIKE REGION (F1)

FIG. 30A



Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

	IC50	HP1V3	178	AV	(μ g/ml)	CD
189	-	827*	-	-	-	-
190	-	775*	-	-	-	-
191	-	612*	-	-	-	-
192	-	699*	-	-	-	-
193	-	525*	-	-	-	-
194	+	61*	-	-	-	-
195	+	49	++	++	++	++
196	++	3.1	+	+	+	+
197	++	71.15	++	++	++	++
198	++	0.325	+	+	+	+
199	++	2.3*	+	+	+	+
200	++	1.0*	+	+	+	+
201	++	0.224*	+	+	+	+
202	++	+	+	+	+	+
203	++	0.390*	+	+	+	+
204	++	0.213	+	+	+	+
205	++	0.174	+	+	+	+
206	++	2.0*	+	+	+	+
207	++	2.0*	+	+	+	+
208	+	37*	+	+	+	+
209	++	1.0*	+	+	+	+
210	++	2.0*	+	+	+	+

FIG. 30B



Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

T-269 | TRUNCATED 201 | E W I R R S N Q K L D S I | 457.500UG/ML

T-626 | 205 MUTANT | I D I S I E L N K A K S D L E E S K E W I K K S N Q K L D S I G N W H | 209.589UG/ML

T-383	R M K Q L E D K V E E L L S K L E W I R R S N Q K L D S I	NOT DONE
T-577	D Q Q I K Q Y K R L L D R L I I P L Y D G L R Q K D V I V S N Q E S N	133.793UG/ML*
T-578	Y S E L T N I F G D N I G S L Q E K G I K L Q G I A S L Y R T N I T E I	107.177UG/ML*
T-579	T S I T L Q V R L P L L T R I L L N T Q I Y R V D S I S Y N I Q N R E W Y	NOT DONE

FIG. 30C



Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

FUSION PEPTIDERNKRGVFVLGFLGFLATAGSAMGAAS ♠♥ **XXXXAOSRTLLAGIVOOOO** ♠
♥ ALLMOTIS ♥ ♠107x178x4♠

LLDVVKROQELLRLTVWGTKNLQTRVTAIEKYLKROAQL+NAWGCAE

♥ALLMOT15♥
*LVS PREDICTED COILED-COIL
RQVCHTTVPWPNASLTPDW *NND ♥TWQEWERKVDFLEENITALLEEAQIQQ

♠107x178x4♠
EKNMY ♠ELOKLNSWD* VF♥ GNXXXXXXXXXXXXXXXXXXXXXX

IYIVMLAKLRQGYRPVFSSPPSYFQXTHTQQDPALPTREGKEGDGGEGGGNSSWP
WQIEYIHF

FIG. 31



Docket No.: 7872-027-999
Serial No.: 08/487,355
Inventor(s): Barney et al.
Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

MTRRRVLSVVVLLAALACRLGAQTPEQPAPPATTQOPTATRQQTSFPFRVCSELSSHGDLFRFSSD

♠ 107x178x4♠

IQCPSFGTRENHTEGLLMVFKDNIIPYSF ♠ KVRSYTKIVTNILYNGWYADSVNRHE♠

EKFSVDSY ETDQMDTIYQ CYNAVKMTKD GLTRVYVDRD GVНИTVNLKP TGGLANGVRR

YASQTELYDA PGWIWTYRT RTTVNCLITD MMAKSNSPFD FFVTTGQTV EMSPFYDGKN

KETFHERADS FHVRTNYKIV DYDNRGTPQ GERRAFLDKG TYTLSWKLEN RTAYCPLQHW

QTFDSTIATE TGKSIHFVTD EGTSSFVTNT TVGIELPDAF KCIEEQVNKT HEKYEAQD

RYTKGQEAIT YFITSGGLL AWLPLTPRSL ATVKNLTELT TPTSSPPSSP SPPAPSAARG

STPAAVLRRR RRDAGNATTP VPPTAPGKSL GTLNNPATVQ IQFAYDSLRR QINRMLGDLA

RAWCLEQKRQ NMVLRELTQI NPTTVMSSIY GKAVAAKRLG DVISVSQCVP VNQATVTLRK

SMRVPGSETM CYSRPLVSFS FINDTKTYEG QLGTDNEIFL TKKMTEVCQA TSQYYFQSGN

♠107x178x4♠

EIHVYNDYHH FKTIELDGIA TLQTFISLNT ♠ SLIENIDFASLELYSRDEQRASNVFD *LE♠

LVS PREDICTED COILED COIL

TM Potential

GIFREYNFQAQNIAGLRKDLDNAVSN* GRNQ FVDGLGELMDLGSVG QSITN

♣P12LZIPC♣

TM Potential

TM Potential

LVSTVGGFLSSLVSGFISF FK N ♣PFGGMLILVLVAGVVLVSL♣ TRRTRQMS

QQPVQMLYPG IDELAQQHAS GEGPGINPIS KTELQAIMLA LHEQNQEQR AAQRAAGPSV

ASRALQAARDRFPGLRRRRY HDPETAAALL GEAETEF

FIG. 32



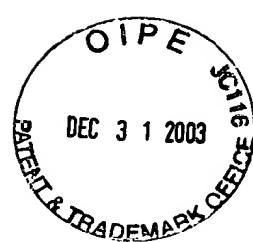
Docket No.: 7872-027-999
Serial No.: 08/487,355
Inventor(s): Barney et al.
Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

MMDPNSTSED VKFTPDPYQV PFVQAFDQAT RVYQDLGGPS QAPLPCVLWP VLPEPLPQGQ
LTAYHVSTAP TGSWFSAQPQ APENAYQAYA APQLFPVSDI TQNQQTNQAG GEAPQPGDNS
TVQTAAAVVF ACPGANQGQQ LADIGVPQPA PVAAPARRTR KPQQPESLEE CDSELEI

@DNA BINDING@ ♠107x178x4♠ +DIMERIZATION+
@KRY KNRVASRKCRK ♠FK@ Q +LLQHYREVAAKSSENDRLRLLLKQ♠

MCPSLDVD+ SI IPRTPDVLHE DLLNF

FIG. 33



Docket No.: 7872-027-999
Serial No.: 08/487,355
Inventor(s): Barney et al.
Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

FUSION
PEPTIDE
FAG

♥ALLMOTI5♥

LVS COILED-COIL

♥VVLAGAALGVATAAQITAGIALHQSMI*NSOAIIDLNRASLETTN

OAIIAIROAGOEMI*LAVQGVQDYINN♥ ELIPS MNQLSCDLIGQKLGKLLRYYT

♣P23LZIPC♣

♣P6,12LZIPC♣

♣107X178X4♣

♥ALLMOTI5♥

EILSLFGPSLRD ♣PISA ♣♥EISIQLSYALGGDINKV♣ LEKLGYSGGDL♣

♣P1,12LZIPC♣

LGILES♣ RGIKARI♥ THVDTESYFIVLSIAY ♣PTLSEIKGVIVHRLEGV♣ SY

NIGSQEWYTTVPKYVATQGYLISNFDESSCTFMPEGTVCSQNALYPMSPLLQECL

RGSTKSCARTLVSGSFGNRFILSQGNLIANCASILCKCYTTGTIINQDPDKILTYIAA

♣P23LZIPC♣

♣P12LZIPC♣

♥ALLMOTI5♥

LVS COILED-COIL

DHCPVVEVNGVTIQVGSRRYPDAVYLHRIDLGP ♣P ♥IS *LERLDVGTNLGN

♦TRANSMEMBRANE REGION♦

AIAKLEDAKELL♣ ESSDOI*L♣ RSMK ♦GLSSTSIVYILI♥ AVCLGGGLIGIP

ALICCC♦ RGRCNKKGEQVGMSRPGLKPDLTGTSKSYVRSL

FIG. 34



Docket No.: 7872-027-999
Serial No.: 08/487,355
Inventor(s): Barney et al.
Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

Pre S1 and Pre S2

MGQNLSTS NPLGFFPDHQLDPAFRANTANPDWDFNPNKDTWPDANKVGAGA FG

LGFTPPHGGLLGWSPQAQGILQTL PANPPPASTNRQSGRQPTPLS PPLRNTHPQAM

QWNSTTFHQTLQDPRVRGLYFPAGGSSSGTVNPVLTASPLSSIFS RIGDPALN

MAJOR SURFACE ANTIGEN(HBs)

FUSION

PEPTIDE

♣P12 & 23LZIPC♣

MENITSG FLG ♣PLL VLQAGFLLTRILTI♣ PQSLDSWWTSLNFLGGTTVCLG

♣P12 & 23LZIPC♣

QNSQSPTSNHSPTSCPPTC ♣PGYRWMCRLRFIIFLFI LLCLIFLLVLLDYQGML♣

PVCPLIPGSSTTSTGPCRTCM TT AQGTS MYPSCCCTKPSDGNCCTCIPIPSSWAFGKF

♦TRANSMEMBRANE REGION♦

LWEWASARFSWLS ♦LLVPFVQWFVGLSPTVWLSVI♦ WMMWYWGPSL

♦TRANSMEMBRANE REGION♦

♦YSILSPFLPLLPIFFCLWYYI♦

FIG. 35



Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

FUSION ♥ ALLMOT15 ♥ ♠107x178x4♠
PEPTIDE *LVS COILED COIL
AIQLIPLFVG LGI ♥TTAVSTGAAGLGVS ♠IT *QYTKLSHQQLISDV

QAISSTIQDLQDQVDSLAEVVVLQ* NRRGLDLLTAE ♠ QGGI♥

CLALQEKKCCFYANKSGIVRDKIKNLQDDLERRRQLIDNPFWTSFHG

FLPYVMPPLLGPLLCLLLVLSGPIIFNKLMTFIKHQIESIQAKPIQVHYH

TRANSMEMBRANE REGION
RLEQEDSGGSYLTLT.....????????????????????????....

FIG. 36



Docket No.: 7872-027-999
Serial No.: 08/487,355
Inventor(s): Barney et al.
Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

MKAQKGFTLI ELMIVVVAIIG ILAAIAPGQ

♦107x178x4♦

♥ALLMOTI5♥

♦♥YQDYTARTQVTRAVSEVSALKTAAESAILEGKEIVSSA♦ T♥

PK DTQYDIGFT

♦107x178x4♦

♥ALLMOTI5♥

♦♥ESTL LDGSGKSQIOVTDNQDGTVELVATLGKSSGS♦ AIKGAVITSR♥

KNDGV WNCKITKTPT AWKPNYAPAN CPKS

FIG. 37



Docket No.: 7872-027-999
Serial No.: 08/487,355
Inventor(s): Barney et al.
Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

MNTLQKGFTL IELMIVIAIV GILAAVALPA YQDYTARAQV

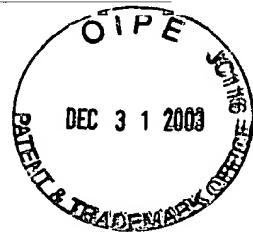
SEAILLAEGQ KSAVTEYYLN HGIWP

♦107x178x4♦
♥ALLMOT15♥
♦♥KDNTSAGVASSSIKGKYVKYENGVVTAT♦

MNSSNVNKEIQGKKLSLWAKRQDGSVKW♥

FCGQP VTRNAKDDTV TADATGNDGK IDTKHLPSTC RDNFDAS

FIG. 38



Docket No.: 7872-027-999
Serial No.: 08/487,355
Inventor(s): Barney et al.
Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

MKKTLLGSЛИ LLAFAGNVQA DINTETSGKV TFFGKVVENT

CKVKTEHKNL SVVLNDVGKN SLSTKVNTAM PTPFTITLQN

CDPTTANGTA NKANKVGLYF Y

△107x178x4△

♡ALLMOTIS♡

♡♡SWKNVDKENNETLKNEOTTADYATNVNI♡

QLMESNGTKAISVVGKETE♡

DF MHTNNNGVAL NQTHPNNAHI SGSTQLTTGT NELPLHFIAQ

YYATNKATAG KVQSSVDFQI AYE

FIG. 39



Docket No.: 7872-027-999
Serial No.: 08/487,355
Inventor(s): Barney et al.
Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

MNKKLLMNFF IVSPLLATT ATDIFTPVP

♦107x178x4♦

♡ALLMOTI5♡

♦♡LSSNQIICKTAKASTNDNIKDLLDWYSSGSDTFTNS♦♡

EVLDNSL GSMRIKNTDG SISLIIFPSP YYSPAFTKGE KV

♦107x178x4♦

♦DLNTKRTKKSQHTSEGTYIHFOISGV♦

N TEKLPTPIEL PLKVVKVHGKD SPLKYG

♦P12LZIPC♦

♦PKFDKKQLAISTLDFEIRHQLTQI♦

HGLYRSSDKT GGYWKITMND GSTYQSDL SK KFEYNTEKPP

INIDEIKTIE AEIN

FIG. 40



Docket No.: 7872-027-999
Serial No.: 08/487,355
Inventor(s): Barney et al.
Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

♥ALLMOTIS♥
MKKTAFILLL FIALTLLTSP L ♥VNG

♠107x178x4♠
LVS PREDICTED COILED-COIL
S ♠EKSEEINEKDLRKKS ELORNALSNLROIY YYNEKAITENKESDD♠

QFLENTLL♥ FKG FFTGHPW

♠107x178x4♠
♠YNDLLVDLGSKD ATNKYKGKKVDLYGAY♠

YGYQCAGGTPNKTACMYGGVTLHDN NRLTEEKKVP INLWIDGKQTTV

♣P12LZIPC♣
♣PIDKVKT SKKEVTVQELDL♣ QARHYLHGK FGLYNSDSFGGKVQ

♣P12LZIPC♣
RGLIVF HSSEGSTVSY DLFDAQGQY ♣P DTLLRIYRDN KTINSENLHI♣

DLYLYTT

FIG. 41



Docket No.: 7872-027-999
Serial No.: 08/487,355
Inventor(s): Barney et al.
Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

♥ALLMOT15♥

MKKTAFTLLL FIALTLLTSP L ♥VNGS

♠107x178x4♠

♠EKSEEINEKDLRKKSELOGTALGNLKQIYYYNEAKTENKESHD♠ Q♥

FLQHTILFKG FFTDHWSWYND LLVDFDSKDI VDKYKGKKVDLYGAYY

GYQC AGGTPNKTAC MYGGVTLHDN NRLTEEKVPINL WLDGKQNTV

♠107x178x4♠

♥ALLMOT15♥

♠P12LZIPC♠

♣P ♥L ♠ETVKTNKKNVTQELDLQARRYL♣ OEKYNLYN♣

SDVFDGKVQR♥ GLIVF HTSTE

♣P23LZIPC♣

♣PSVNYDLFGAQGQYSNTLLRIYRDNKTINSENMIH♣ DIYLYTS

FIG. 42



Docket No.: 7872-027-999
Serial No.: 08/487,355
Inventor(s): Barney et al.
Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

MKNITFIFFILLASPLYANGDRLYRADSRPPDEIKRFRSLMPRGNEYFDRGT

♡ALLMOTIS♡
♡QMNINLYDHARGTQTGFVRYDDGYV

§107x178x4§
§STSLSLRSAHLAGQYILSGYSLTIYIVI§ ANMFNVNDVISVY♡

SP HPYEQEVSAL GGIPYSQIYG WYRVNFGVID ERLHRNREYR

DRYYRNLNIA PAEDGYRLAG FPPDHQAWRE EPWIHHAPQG

CGDSSRTITG DTCNE

♡ALLMOTIS♡
♡ETQNLSTIYLREYQSKVKRQIFS DYQSEVDIYNRIRDEL♡

FIG. 43



Docket No.: 7872-027-999
Serial No.: 08/487,355
Inventor(s): Barney et al.
Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

MMFSGFNADY EASSSRCSSA SPAGDSL SYY HSPADSFSSM

GSPVNAQDFC TDLAVSSANF IPTVTAISTS PDLQWLVQPA

LVSSVAPSQT RAPHFGVPA PSAGAYS RAG VVKTMTGGRA

LVS PREDICTED COILED-COIL
QSIGRRGKVE QLSPEEEKR RIRRE *RNKMA AAK

♦107x178x4♦

♥ALLMOTIS♥

♥CRNRRREL ♦TDTLQAETDQLEDEKSALQTEIANLLKEKEKL♥

EFILAAHR* PACKIPDDL GFPEEMSVAS LDLTGGLPEV

ATPEEEAFT LPLLNDPEPK PSVEPVKSIS SMELKTEPFD

DFLFPASSRP SGSETARSVP DMDLSGSFYA LPLLNDPEPK

PSVEPVKSIS SMELKTEPFD DFLFPASSRP SGSETARSVP

DMDLSGSFYA GSSSNEPSSD SLSSPTLLAL

FIG. 44



Docket No.: 7872-027-999
Serial No.: 08/487,355
Inventor(s): Barney et al.
Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

SGWESYYKTEGDEEAEEEQEEENLEASGDYKYSGRDSLIFLVDASKA
MFESQSEDELTPFDMSIQCIQSVDYISKISSLDRDLLAVVFGTEKDKNS
VNFKNIYVLQELDNPAGAKRILELDQFKGQQGQKRFQDMMGHGSDY
SLSEVLWVCANLFSDVQFKMSHKRIMLFTNEDNPHGNDSAKASRAR
TKAGDLRDTGIFLDLMHLKKPGGFISLIFYRDIISIAEDED

♠107x178x4♠

♥ALLMOTI5♥

LVS PREDICTED COILED-COIL

♥LRVH *FEE ♠SSKLEDILRKVRAKETRKRALSRKLKLNKDIV* ISV

GIYNLVQKAL♥ KPPPIKLYRETN♠ EPVKTCTRFTNTSTGGLLPSDTKR
SQIYGSRQIILEKEETEELKRFDDPGLMLMGFKPLVLLKKHHLRPSLFVYPE
ESLVIGS STLFSALLIKCLEKEVAALCRYTPRRNIPPYFVALVPQEEELDDQK
IQVTPPGFQLVFLPFADDKRKMPFTEKIMATPEQVGKMKAIIVEKLRFYRS
DSFENPVLQQHFRNLEALALDLME

♣PI2LZIPC♣

♣PEQAVDLTPKVEAMNKRL♣ GSLVDEFKELVYPPDYNPEGKVTKR
KHDNEGSGSKRPKVEYSEEELKTHISKGTGKFTVPMLEACRAYGLKSG
LKKQELLEALTKHFQD

FIG. 45



Docket No.: 7872-027-999
Serial No.: 08/487,355
Inventor(s): Barney et al.
Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

GGGALSPQHSAVTQGSIIKNKEGMDAKS

♦107x178x4♦

♥ALLMOTI5♥

♦♣LTAWSRTLYTFKDVFYDFTREEWKLLDT♦ AQQIVYRNV
MLENYKNLVSLGYQLT♥ KPDVILRLEKGEEPWLVEREIHQETHPD
SETAFEIKSSVSSRSIFKDKQSCDIKMEGMARNDLWYLSLEEVWKCR
DQLDKYQENPERHLRHQLIHTGEKPYECKECGKSFSRSSHIGHQKT
HTGEEPYECKECGKSFSWFSHLVTHQRTHTGDKLYTCNQCGKSFVH
SSRLIRHQRTHGTGHKPYECPECGKSFRQSTHLLHQRTHVRVRPYECN
ECGKSYSQRSHLVVHHRIHTGLKPFECKDCGKCFSSHLYSHQRTH
TGEKPYECHDCCGKSFSQSSALIVHQRIHTGEKPYECCQCGKAFIRKN
DLIKIHQRHHVGAETYKCNQCGIIFSQNS

♣P23LZIPC♣

♣PFIVHQIAHTGEQFLTCGNQCGTALVNTSNLIGQTNHI♣ RENAY

FIG. 46



RESIDUE - 438	P D A V Y L H R I D L G P P I S L E R I L D V G I T N L C N A I A K L E A K E L L E S S D Q I L R S M - 488 #
T-252A0	P D A V Y L H R I D L G P P I S L E R I L D V G I T N L C N A I A K L E A K E L L E S S D Q I L R S M - 488 #
T-253A0	D A V Y L H R I D L G P P I S L E R I L D V G I T N L C N A I A K L E A K E L L E S S D Q I L R S M - 488 #
T-254A0	A V Y L H R I D L G P P I S L E R I L D V G I T N L C N A I A K L E A K E L L E S S D Q I L R S M - 488 #
T-255A0	V Y L H R I D L G P P I S L E R I L D V G I T N L C N A I A K L E A K E L L E S S D Q I L R S M - 488 #
T-256A0	Y L H R I D L G P P I S L E R I L D V G I T N L C N A I A K L E A K E L L E S S D Q I L R S M - 488 #
T-257B1,C1	L H R I D L G P P I S L E R I L D V G I T N L C N A I A K L E A K E L L E S S D Q I L R S M - 488 #
T-258B1	H R I D L G P P I S L E R I L D V G I T N L C N A I A K L E A K E L L E S S D Q I L R S M - 488 #
T-259B1	R I D L G P P I S L E R I L D V G I T N L C N A I A K L E A K E L L E S S D Q I L R S M - 488 #
T-260B1	I D L G P P I S L E R I L D V G I T N L C N A I A K L E A K E L L E S S D Q I L R S M - 488 #
T-261A0	D L G P P I S L E R I L D V G I T N L C N A I A K L E A K E L L E S S D Q I L R S M - 488 #
T-262B1	L G P P I S L E R I L D V G I T N L C N A I A K L E A K E L L E S S D Q I L R S M - 488 #
T-263B1	G P P I S L E R I L D V G I T N L C N A I A K L E A K E L L E S S D Q I L R S M - 488 #
T-264B1	P P I S L E R I L D V G I T N L C N A I A K L E A K E L L E S S D Q I L R S M - 488 #
T-265B1	P I S L E R I L D V G I T N L C N A I A K L E A K E L L E S S D Q I L R S M - 488 #
T-266A0	I S L E R I L D V G I T N L C N A I A K L E A K E L L E S S D Q I L R S M - 488 #
T-267A0	S L E R I L D V G I T N L C N A I A K L E A K E L L E S S D Q I L R S M - 488 #
T-268A0	L E R I L D V G I T N L C N A I A K L E A K E L L E S S D Q I L R S M - 488 #

FIG. 47A



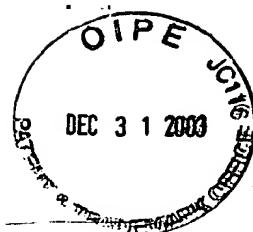
Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

FIG. 47B



SIMIAN IMMUNODEFICIENCY VIRUS M2251	
DP178-LIKE	
RESIDUE	245 T W Q E W E R K V D F L E E N I T A L L E E A Q I Q Q E K N M Y E L Q O K L N S W D V F G N W F
T- 390	245 T W Q E W E R K V D F L E E N I T A L L E E A Q I Q Q E K N M Y E L Q O K L N S W D V F G N W F
T- 391	246 W Q E W E R K V D F L E E N I T A L L E E A Q I Q Q E K N M Y E L Q O K L N S W D V F G N W F
T- 392	247 Q E W E R K V D F L E E N I T A L L E E A Q I Q Q E K N M Y E L Q O K L N S W D V F G N W F
T- 393	248 E W E R K V D F L E E N I T A L L E E A Q I Q Q E K N M Y E L Q O K L N S W D V F G N W F
T- 394	249 W E R K V D F L E E N I T A L L E E A Q I Q Q E K N M Y E L Q O K L N S W D V F G N W F
T- 395	250 E R K V D F L E E N I T A L L E E A Q I Q Q E K N M Y E L Q O K L N S W D V F G N W F
T- 396	251 R K V D F L E E N I T A L L E E A Q I Q Q E K N M Y E L Q O K L N S W D V F G N W F
T- 397	252 K V D F L E E N I T A L L E E A Q I Q Q E K N M Y E L Q O K L N S W D V F G N W F
T- 398	253 V D F L E E N I T A L L E E A Q I Q Q E K N M Y E L Q O K L N S W D V F G N W F
T- 399	254 D F L E E N I T A L L E E A Q I Q Q E K N M Y E L Q O K L N S W D V F G N W F
T- 400	255 F L E E N I T A L L E E A Q I Q Q E K N M Y E L Q O K L N S W D V F G N W F

FIG. 48A



Docket No.: 7872-027-999
Serial No.: 08/487,355
Inventor(s): Barney et al.
Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

		ANTIVIRAL	ACTIVITY	SIV
	RESIDUE	47		
291				
280		35	T390	NT
281		35	T391	+++
282		35	T392	+++
283		35	T393	+++
284		35	T394	+++
285		35	T395	+++
286		35	T396	+++
287		35	T397	+++
288		35	T398	+++
289		35	T399	+++
290		35	T400	+++

FIG. 48B



HIV-1 BRU WALKS N-TERMINAL TO DP178

	AA#		
	6		
	1	11	
	5		
36-MER	pt.		
WALK	MUTANTS ADDED		
T661	X		
T660	X		
T659	X		
T658	X		
T657	X		
T656	X		
T655	X		
T654	X		
T653	X		
T652	X		
T651	X		
T625	47-MER		
T650	X		
T649	X		
T624	35-MER		
T50	X	X	
T648	X		
T647	X		
T711	30-MER		
T621	30-MER	GGC	
T646	X		
T645	X		
T644	X		
T643	X		
T642	X		

FIG. 49A



Docket No.: 7872-027-999
Serial No.: 08/487,355
Inventor(s): Barney et al.
Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

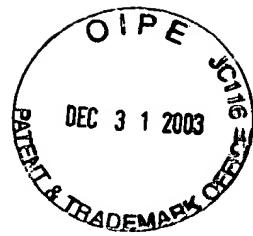
		HIV-1/IIIB		HIV-2 NIHZ	
		IC50 ng/ml		IC50 ng/ml	
		297*	297*	1660	258*
Q	N	T661	297*		
Q	N	T660	258*		
Q	N	T659	2290*		
Q	N	T658	191*		
Q	N	T657	128*		
Q	N	T656	5*		
Q	N	T655	2300*		
Q	N	T654	1*		
Q	N	T653	63*		
Q	N	T652	4*		
Q	N	T651	338*		
Q	N	T625	ND		
Q	N	T650	44*		
Q	N	T649	8*		
Q	N	T624	2		
Q	N	T50	6		
Q	N	T648	36		
Q	N	T647	44		
Q	N	T711	ND		
Q	N	T621	229		
Q	N	T646	83		
Q	N	T645	85		
Q	N	T644	4960*		
Q	N	T643	1690*		
Q	N	T642	1450*		

FIG. 49.



Docket No.: 7872-027-999
Serial No.: 08/487,355
Inventor(s): Barney et al.

FIG. 49C



Docket No.: 7872-027-999
Serial No.: 08/487,355
Inventor(s): Barney et al.
Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

Q N Q Q E K N E Q E L L E L D K W A S L	T622	230
Q N Q Q E K N E Q E L L E	T623	3596
Q N Q Q E K N E Q E L L E L D K W A S L W N	T51	>1000000
Q N Q Q E K N E Q E L L E L D K W A S L W N W	T641	98
Q N Q Q E K N E Q E L L E L D K W A S L W N W	T640	15
Q N Q Q E K N E Q E L L E L D K W A S L W N W	T20	0.6
Q N Q Q E K N E Q E L L E L D K W A S L W N W	7320	
W F	120	0.6
W F N	639	21
W F N I	638	>10000
W F N I I	637	>10000
W F N I I I	636	110
W F N I I I N	635	139
W F N I I I N W	634	554
W F N I I I N W L	633	186
W F N I I I N W L W	632	101800
W F N I I I N W L W L	631	>10000
W F N I I I N W L W L K	630	>10000
W F N I I I N W L W L K I	629	>10000
W F N I I I N W L W L K I F	628	>10000
W F N I I I N W L W L K I F I	627	>10000

* CRUDE PREP RESULT

FIG. 49D



Docket No.: 7872-027-999
Serial No.: 08/487,355
Inventor(s): Barney et al.

FIG. 49E



Docket No.: 7872-027-999
Serial No.: 08/487,355
Inventor(s): Barney et al.

FIG. 49F

		HIV-1/1118 1C50(ng/ml)
7		>400000
1		>50000
7		>100000
T4		ND
T228		ND
T700		ND
T715		ND
T65/T716		ND
T714		ND
T712		ND
T64		ND
T63		ND
T62		ND
T3		3000
T61/T102		64000
T217		40000
T218		25000
T219		48000



Docket No.: 7872-027-999
Serial No.: 08/487,355
Inventor(s): Barney et al.

FIG. 49G



Docket No.: 7872-027-999
Serial No.: 08/487,355
Inventor(s): Barney et al.
Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

T220	59000
T221	16000
T234	>100000
T235	53000
T570	>100000
T381	89000
T382	190000
T677	6310
T376	>100000
T589	745000
T377	69000
T590	30290
T378	95000
T591	59000
T270	>200000
T271	16000
T272	1000
T273	>100000
T608	>100000
T609	>100000
T610	>100000
T611	70000
T612	>100000
T222	49000
T223	57000
T60/T224	77000
T225	>100000
T226	>100000
T227	>100000

FIG. 49H



Docket No.: 7872-027-999
 Serial No.: 08/487,355
 Inventor(s): Barney et al.
 Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

HIV-1 Bru 178 CONSTRUCTS, MUTATIONS		Pl.	REMOVED	ADDED	MUTANTS	AA#	Y T S L I H S L I E E S																	
REMOVED	ADDED						6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	
		T595		X		C C G Y T S L I H S L I E E S																		
		T574		X		C13H27CO-	Y T S L I H S L I E E S																	
		T680		X		FREE TERMINI	Y T S L I H S L I E E S																	
		T573		X		NO AC-	Y T S L I H S L I E E S																	
		T84		X		DIG-	Y T S L I H S L I E E S																	
		T83		X		BIOTIN-	Y T S L I H S L I E E S																	
		T708		X		BIOTIN-NH(CH2)6CO-	Y T S L I H S L I E E S																	
		T707		X		BIOTIN-NH(CH2)4CO-	Y T S L I H S L I E E S																	
		T20																						
		T95		X																				
		T96		X																				
		T97		X																				
		T98		X																				

FIG. 49I



Docket No.: 7872-027-999
Serial No.: 08/487,355
Inventor(s): Barney et al.
Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

		HIV-1/111B	
		IC50 (ng/ml)	
Q	N Q Q E K N E Q E L L E L D K W A S L W N W F	T595	112
Q	N Q Q E K N E Q E L L E L D K W A S L W N W F	T574	ND
Q	N Q Q E K N E Q E L L E L D K W A S L W N W F	T680	70
Q	N Q Q E K N E Q E L L E L D K W A S L W N W F	T573	ND
Q	N Q Q E K N E Q E L L E L D K W A S L W N W F	T84	ND
Q	N Q Q E K N E Q E L L E L D K W A S L W N W F	T83	15
Q	N Q Q E K N E Q E L L E L D K W A S L W N W F	T708	ND
Q	N Q Q E K N E Q E L L E L D K W A S L W N W F	T707	ND
Q	N Q Q E K N E Q E L L E L D K W A S L W N W F	T20	0.6
Q	N Q Q E K N E Q E L L E L D K W A S L W N A F	T95	43
Q	N Q Q E K N E Q E L L E L D K W A S L A N W F	T96	1
Q	N Q Q E K N E Q Q L L E L D K W A S L W N W F	T97	2
Q	N Q Q E K N E Q E L L Q Q L D K W A S L W N W F	T98	10

FIG. 49J



Docket No.: 7872-027-999

Serial No.: 08/487,355

Inventor(s): Barney et al.

Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

FIG. 49K



Docket No.: 7872-027-999
Serial No.: 08/487,355
Inventor(s): Barney et al.
Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

Q	N	Q	E	K	N	Q	Q	E	L	L	Q	L	D	K	W	S	L	W	N	W	F	T	99	56	
Q	N	Q	E	K	N	Q	Q	E	L	L	Q	L	D	K	W	S	L	W	N	W	F	T	103	ND	
Q	N	Q	E	K	N	Q	Q	E	L	L	Q	L	D	K	W	S	L	W	N	W	F	T	1212	3	
Q	N	Q	E	K	N	Q	Q	E	L	L	Q	L	D	K	W	S	L	W	N	W	F	T	2113	25	
Q	N	Q	E	K	N	Q	Q	E	L	L	Q	L	D	K	W	S	L	W	N	W	F	T	214	19	
Q	N	Q	E	K	N	Q	Q	E	L	L	Q	L	D	K	W	S	L	W	N	W	F	T	215	23	
Q	N	Q	E	K	N	Q	Q	E	L	L	Q	L	D	K	W	S	L	W	N	W	F	T	216	1000	
Q	N	Q	E	K	N	Q	Q	E	L	L	Q	L	D	K	W	S	L	W	N	W	F	T	229	>100000	
Q	N	Q	E	K	N	Q	Q	E	L	L	Q	L	D	K	W	S	L	W	N	W	F	T	230	6	
Q	N	Q	E	K	N	Q	Q	E	L	L	Q	L	D	K	W	S	L	W	N	W	F	T	231	4	
Q	N	Q	E	K	N	Q	Q	E	L	L	Q	L	D	K	W	S	L	W	N	W	F	T	379	0.3	
Q	N	Q	E	K	N	Q	Q	E	L	L	Q	L	D	K	W	S	L	W	N	W	F	T	701	3	
Q	N	Q	E	K	N	Q	Q	E	L	L	Q	L	D	K	W	S	L	W	N	W	F	T	702	36	
Q	N	Q	E	K	N	Q	Q	E	L	L	Q	L	D	K	W	S	L	W	N	W	F	T	703	0.5	
Q	N	Q	E	K	N	Q	Q	E	L	L	Q	L	D	K	W	S	L	W	N	W	F	T	704	510	
Q	N	Q	E	K	N	Q	Q	E	L	L	Q	L	D	K	W	S	L	W	N	W	F	T	705	14	
Q	N	Q	E	K	N	Q	Q	E	L	L	Q	L	D	K	W	S	L	W	N	W	F	T	706	68	
Q	N	Q	E	K	N	Q	Q	E	L	L	Q	L	D	K	W	S	L	W	N	W	F	T	1156	80000	
K	E	L	W	E	Q	Q	E	I	S	I	Q	N	L	H	K	S	A	L	Q	E	Y	W	T	89	>100000
K	E	L	W	E	Q	Q	E	I	S	I	Q	N	L	H	K	S	A	L	Q	E	Y	W	T	90	>100000

FIG.49L



Docket No.: 7872-027-999
Serial No.: 08/487,355
Inventor(s): Barney et al.

HIV-1 BRU DP-107 PEPTIDES		
WALK	TRUNCATION	ADDITION
T10 28-MER	UNBLOCKED	M T L T V Q A R Q L L S Q I V Q Q Q N N L L R A I E A Q Q H L L Q L T V W G I K Q L
T37 28-MER		M T L T V Q A R Q L L S Q I V Q Q Q N N L L R A I E A Q Q H L L Q L T V W G I K Q L
T48 28-MER		Q A R Q L L S Q I V Q Q Q N N L L R A I E A Q Q H L L Q L T V W G I K Q L
T36 28-MER		R Q L L S Q I V Q Q Q N N L L R A I E A Q Q H L L Q L T V W G I K Q L
T8 28-MER	UNBLOCKED	V Q Q Q N N L L R A I E A Q Q H L L Q L T V W G I K Q L
T33 28-MER		V Q Q Q N N L L R A I E A Q Q H L L Q L T V W G I K Q L
T21 38-MER		N N L L R A I E A Q Q H L L Q L T V W G I K Q L
T85		BIOTIN
T1	X	
T2	X	UNBLOCKED
T7	X	UNBLOCKED
T34	X	
T6 28-MER	UNBLOCKED	
T35 28-MER		
T5 28-MER		

FIG. 50A



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Serial No.: 08/487,355
Inventor(s): Barney et al.
Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

QARILAVERYLKDDQQLLGIVG	HIV/IIIB IC50(µg/ml)	
6	T10	50
0	T37	75*
2	T48	83*
	T36	45*
	T8	50
	T33	>100*
QARILAVERYLKDDQ	T21	2
QARILAVERYLKDDQ	T86	2
QARILAVERYLKDDQ	T1	>100
QARILAV	T2	ND
ARTILAV	T7	26
QARTILAVERYLKDDQ	T34	>100*
QARILAVERYLKDDQ	T6	44
QARILAVERYLKDDQQLLGIVG	T35	>100*
QARILAVERYLKDDQQLLGIVG	T3	55

FIG. 50B



RESIDUE	173	S E L E I K R Y K N R V A S S R K C R A K F K Q L L Q H Y R E V A A K S S E N D R L R L L L	219	ACT RES
T-423	173	S E L E I K R Y K N R V A S S R K C R A K F K Q L L Q H Y R E V A A K		208 ++ 35
T-424	174	E L E I K R Y K N R V A S S R K C R A K F K Q L L Q H Y R E V A A K S		209 - 35
T-425	175	L E I K R Y K N R V A S S R K C R A K F K Q L L Q H Y R E V A A K S S		210 - 35
T-426	176	E I K R Y K N R V A S S R K C R A K F K Q L L Q H Y R E V A A K S S E		211 - 35
T-427	177	I K R Y K N R V A S S R K C R A K F K Q L L Q H Y R E V A A K S S E N		212 - 35
T-428	178	K R Y K N R V A S S R K C R A K F K Q L L Q H Y R E V A A K S S E N D		213 - 35
T-429	179	R Y K N R V A S S R K C R A K F K Q L L Q H Y R E V A A K S S E N D R		214 - 35
T-430	180	Y K N R V A S S R K C R A K F K Q L L Q H Y R E V A A K S S E N D R L		215 - 35
T-431	181	K N R V A S S R K C R A K F K Q L L Q H Y R E V A A K S S E N D R L R		216 - 35
T-432	182	N R V A S S R K C R A K F K Q L L Q H Y R E V A A K S S E N D R L R L		217 - 35
T-433	183	R V A S S R K C R A K F K Q L L Q H Y R E V A A K S S E N D R L R L L		218 - 35
T-434	184	V A S S R K C R A K F K Q L L Q H Y R E V A A K S S E N D R L R L L L		219 - 35
	#			

FIG. 51A



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 Serial No.: 08/487,355
 Inventor(s): Barney et al.
 Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

RESIDUE	185	A S R K C R A K F K Q L L Q H Y R E V A A K S S E N D R L R L L K Q M C P S L D V D S	230	45	ACT RES
T-435	185	A S R K C R A K F K Q L L Q H Y R E V A A K S S E N D R L R L L K Q M C P S L D V D S	220	-	35
T-436	186	S R K C R A K F K Q L L Q H Y R E V A A K S S E N D R L R L L K Q M C P S L D V D S	221	-	35
T-437	187	R K C R A K F K Q L L Q H Y R E V A A K S S E N D R L R L L K Q M C P S L D V D S	222	-	35
T-438	188	K C R A K F K Q L L Q H Y R E V A A K S S E N D R L R L L K Q M C P S L D V D S	223	-	35
T-439	189	C R A K F K Q L L Q H Y R E V A A K S S E N D R L R L L K Q M C P S L D V D S	224	++	35
T-440	190	R A K F K Q L L Q H Y R E V A A K S S E N D R L R L L K Q M C P S L D V D S	225	-	35
T-441	191	A K F K Q L L Q H Y R E V A A K S S E N D R L R L L K Q M C P S L D V D S	226	+	35
T-442	192	K F K Q L L Q H Y R E V A A K S S E N D R L R L L K Q M C P S L D V D S	227	-	35
T-443	193	F K Q L L Q H Y R E V A A K S S E N D R L R L L K Q M C P S L D V D S	228	-	35
T-444	194	K Q L L Q H Y R E V A A K S S E N D R L R L L K Q M C P S L D V D S	229	+	35
T-445	195	Q L L Q H Y R E V A A K S S E N D R L R L L K Q M C P S L D V D S	230	+	35
T-446	196	L L Q H Y R E V A A K S S E N D R L R L L K Q M C P S L D V D S II	231	-	35
		#			

FIG. 51B



Docket No.: 7872-027-999
 Serial No.: 08/487,355
 Inventor(s): Barney et al.
 Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

RESIDUE	197	L Q H Y R E V A A K S S E N D R L R I L L K Q M C P S L D V D S I I P R T P D V L H E D	242	45
T-447	197	L Q H Y R E V A A K S S E N D R L R I L L K Q M C P S L D V D S I I P R T P D V L H E D	232	35
T-448	198	Q H Y R E V A A K S S E N D R L R I L L K Q M C P S L D V D S I I P R T P D V L H E D	233	35
T-449	199	H Y R E V A A K S S E N D R L R I L L K Q M C P S L D V D S I I P R T P D V L H E D	234	35
#	200	Y R E V A A A K S S E N D R L R I L L K Q M C P S L D V D S I I P R T P D V L H E D	235	35
T-451	201	R E V A A A K S S E N D R L R I L L K Q M C P S L D V D S I I P R T P D V L H E D	236	35
T-452	202	E V A A A K S S E N D R L R I L L K Q M C P S L D V D S I I P R T P D V L H E D	237	35
T-453	203	V A A A K S S E N D R L R I L L K Q M C P S L D V D S I I P R T P D V L H E D	238	35
T-454	204	A A A A K S S E N D R L R I L L K Q M C P S L D V D S I I P R T P D V L H E D	239	35
T-455	205	A A K S S E N D R L R I L L K Q M C P S L D V D S I I P R T P D V L H E D	240	35
T-456	206	A K S S E N D R L R I L L K Q M C P S L D V D S I I P R T P D V L H E D	241	35
T-457	207	K S S E N D R L R I L L K Q M C P S L D V D S I I P R T P D V L H E D	242	35
T-458	208	S S E N D R L R I L L K Q M C P S L D V D S I I P R T P D V L H E D	243	35
		RESIDUE	246	37
RESIDUE	209	S E N D R L R I L L K Q M C P S L D V D S I I P R T P D V L H E D L N F		
T-459	209	S E N D R L R I L L K Q M C P S L D V D S I I P R T P D V L H E D L N F	244	35
T-460	210	E N D R L R I L L K Q M C P S L D V D S I I P R T P D V L H E D L N F	245	35
T-461	211	N D R L R I L L K Q M C P S L D V D S I I P R T P D V L H E D L N F	246	35

FIG.51C



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Title: "METHODS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HEPATITIS B VIRUS TRANSMISSION"

DOMAIN I:

174 P-L-L-V-L-Q-A-G-F-F-L-L-T-I-R-I-L-T-I-P-Q-S-L-D-S-W-W-T-S-L-N-F-L-G-G-T-I-P-219

P-L-L-V-L-Q-A-G-F-F-L-L-T-I-R-I-L-T-I-P-Q-S-L-D-S-W-W-T-S-L-N-F-L-G-G-T
L-Q-A-G-F-F-L-L-T-I-R-I-L-T-I-P-Q-S-L-D-S-W-W-T-S-L-N-F-L-G-G-T-I-T-V-C-L
L-V-L-Q-A-G-F-F-L-L-T-I-R-I-L-T-I-P-Q-S-L-D-S-W-W-T-S-L-N-F-L-G-G-T-I-T-V-C-L-V
V-L-Q-A-G-F-F-L-L-T-I-R-I-L-T-I-P-Q-S-L-D-S-W-W-T-S-L-N-F-L-G-G-T-I-T-V-C-L-C
L-Q-A-G-F-F-L-L-T-I-R-I-L-T-I-P-Q-S-L-D-S-W-W-T-S-L-N-F-L-G-G-T-I-T-V-C-L
Q-A-G-F-F-L-L-T-I-R-I-L-T-I-P-Q-S-L-D-S-W-W-T-S-L-N-F-L-G-G-T-I-T-V-C-L-G
A-G-F-F-L-L-T-I-R-I-L-T-I-P-Q-S-L-D-S-W-W-T-S-L-N-F-L-G-G-T-I-T-V-C-L-G-Q
G-F-F-F-L-L-T-I-R-I-L-T-I-P-Q-S-L-D-S-W-W-T-S-L-N-F-L-G-G-T-I-T-V-C-L-G-Q-N
F-F-F-F-L-L-T-I-R-I-L-T-I-P-Q-S-L-D-S-W-W-T-S-L-N-F-L-G-G-T-I-T-V-C-L-G-Q-N-S
F-F-F-F-L-L-T-I-R-I-L-T-I-P-Q-S-L-D-S-W-W-T-S-L-N-F-L-G-G-T-I-T-V-C-L-G-Q-N-S-Q
F-F-F-F-L-L-T-I-R-I-L-T-I-P-Q-S-L-D-S-W-W-T-S-L-N-F-L-G-G-T-I-T-V-C-L-G-Q-N-S-S

FIG. 52A

1
DOMAIN II:

233 P-G-Y-R-W-M-C-L-R-R-F-I-I-F-L-F-I-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P-G-S-S-T-T-G-P-C-R-T-C-M-T-T 290

P-G-Y-R-W-M-C-L-R-R-F-I-I-F-L-F-I-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L

G-Y-R-W-M-C-L-R-R-F-I-I-F-L-F-I-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P

Y-R-W-M-C-L-R-R-F-I-I-F-L-F-I-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V

R-W-M-C-L-R-R-F-I-I-F-L-F-I-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C

W-M-C-L-R-R-F-I-I-F-L-F-I-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P

M-C-L-R-R-F-I-I-F-L-F-I-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L

C-L-R-R-F-I-I-F-L-F-I-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I

L-R-R-F-I-I-F-L-F-I-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P

R-R-F-I-I-F-L-F-I-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P-G

R-F-I-I-F-L-F-I-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P-G-S

F-I-I-F-L-F-I-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P-G-S-S

I-I-F-L-F-I-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P-G-S-S-T-T

I-F-L-F-I-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P-G-S-S-T-T-S

F-L-F-I-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P-G-S-S-T-T-S-T

L-F-I-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P-G-S-S-T-T-S-T-G

F-I-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P-G-S-S-T-T-S-T-G-P

I-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P-G-S-S-T-T-S-T-G-P-C

L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P-G-S-S-T-T-S-T-G-P-C-R

L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P-G-S-S-T-T-S-T-G-P-C-R-T

L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P-G-S-S-T-T-S-T-G-P-C-R-T-C

C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P-G-S-S-T-T-S-T-G-P-C-R-T-C-M

L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P-G-S-S-T-T-S-T-G-P-C-R-T-C-M-T

I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P-G-S-S-T-T-S-T-G-P-C-R-T-C-M-T-T

FIG. 52B